This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

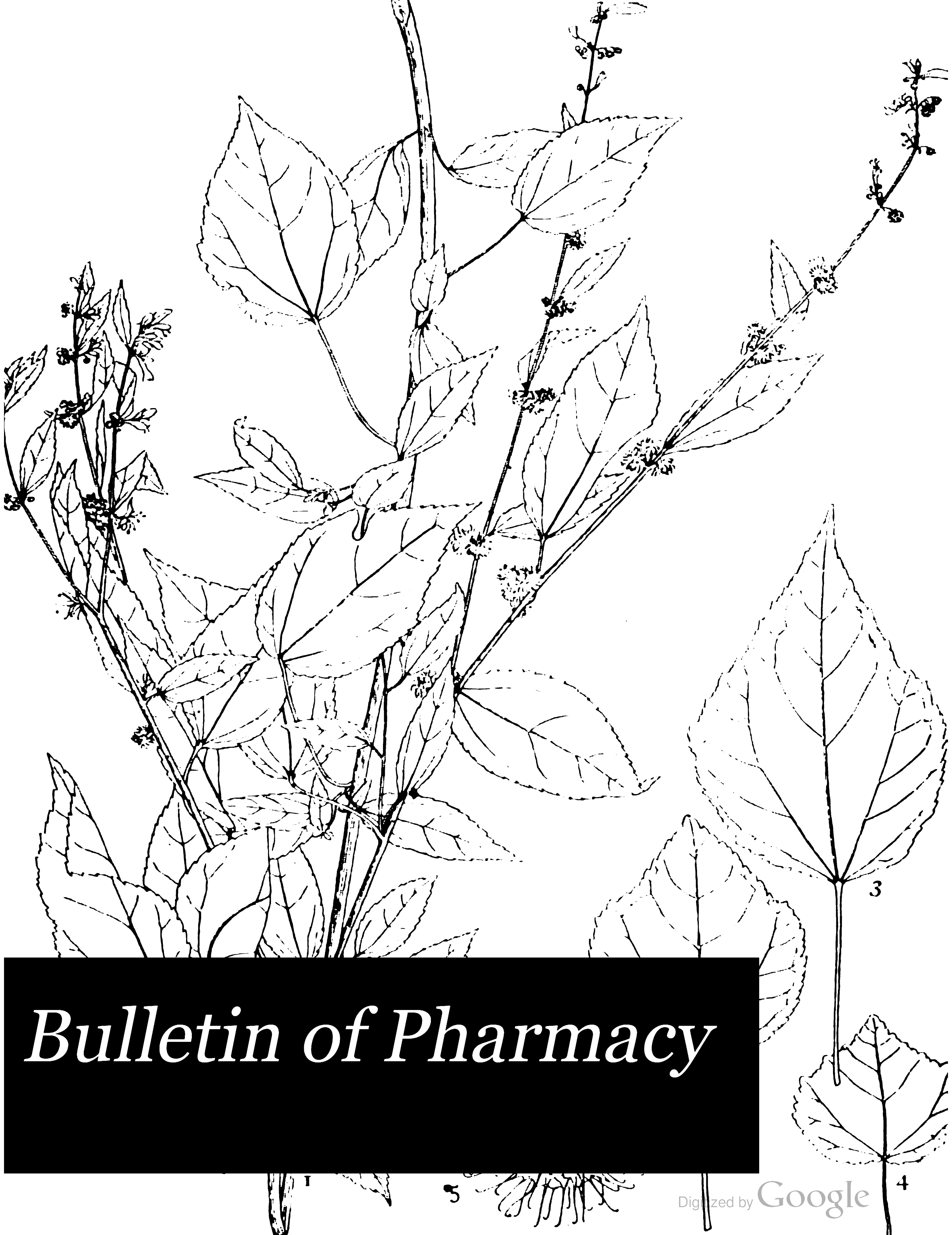
+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

Bulletin of Pharmacy



1837
ARTES VERITAS SCIENTIA
LIBRARY OF THE
UNIVERSITY OF MICHIGAN
E PLURIBUS UNUM
TUEBOR
SI QUAERIS PENINSULAM AMOENAM
CIRCUMSPICE

Chemistry Library

— THE —

DRUGGISTS' BULLETIN.

A MONTHLY

EXPONENT OF PHARMACEUTICAL PROGRESS AND NEWS.

EDITED BY

B. W. PALMER, A. M., M. D.

VOL. IV, JANUARY TO DECEMBER, 1890.

DETROIT:
GEORGE S. DAVIS, MEDICAL PUBLISHER.
1890.

INDEX TO VOLUME IV.

N. B.—The indexing is by subjects regardless of titles; authors' names in SMALL CAPS.

A. Page.

- Abbreviations 48
- Abies Douglassii 370
  - mucronata 370
    - palustris 370
  - toxifolia 370
- Abrus poisoning 182
- Absinthe 260
- Acacia 13
  - anthelmintica 156
  - Farnesiana 13
- Acer saccharinum 81
- Acetanilid 319, 406
- Acetaphenon 87
- Acetic acid, dilute 246
- Aceton-berberin 139
- Acetphenylhydrazin 89
- Acid lactic, dilute 246
  - boracic 183
  - camphoric 242, 403
  - carbolic 376
    - , artificial 318
    - , dangers of 242
  - creosotic 410
    - , meta- 410
    - , para- 410
  - cubebic 300
  - ergotic 385
  - ergotinic 385
  - gallic 14
  - *o* hydrazin-*p*-oxybenzoic 89
  - parahydrosytolenic 410
  - picric, as a sugar test 38
  - pyrethrotoxic 404
  - pyrogallicum 231
  - salicylic 376, 378, 410
    - , impurities of 107
    - , from oil of wintergreen 343
    - , solubility of 389
  - sclerotinic 385
  - selenious 86
  - silicic 418
  - sphacelinic 385
  - sulphoricinic 16
  - sulphuric aromatic 93
  - sulphurous, ointment of 421
  - tannic 14
    - , solubility of 27
- Acne paste, Isaac's 49
- Aconite 35
- Aconitine 108
- Aconitum napellus 188
  - paniculatum 188
- Acorus calamus 216
- Adenium Bohemianum 267
- Administration of disagreeable drugs 187, 402
- Adonidin 299
- Advertising, advance of 254
  - , Wanamaker on 140
- African pigmies 423
- Albumen, new test for 28
- Albuminoids, new reaction of 410
- Alcohol, effect on stomach and digestion 340
  - glycerin for microscopists' 419
  - , impure 301, 407

Page.

- Alcohol, legal sale of by druggists 98
  - , physiological action of 299
  - , tax on 38
- Alcoholic stimulants,—Gladstone on grocers' licenses 109
- Alkaloids, effect of on stomach 340
  - , ferrocyanides of 267
  - , reagents for 61, 97, 409
  - , solubility of 409
- Almond water, bitter 380
- Aloes, Curacoa 35
- Alphabet, a sentence containing the 408
- Althæa, officinalis 406
  - , rosea 406
- Aluminum acetate, ointment of 421
- American Pharmaceutical Ass'n 65, 206, 249, 277
  - , papers at 191
- Amido-camphor group, effect of on animals 248
- Ammonia 61
  - , aromatic spirit of 301
- Ammonium iodide, to preserve color of solutions 17
- "Amole" 11, 405
- Amyl nitrite 155
- Amylen hydrate 49
- Anæsthesia, local—new method of procuring 354
- Anæsthesin 354
- Anæsthetic, a new 157
- Anæsthetics, choice of 68
- Analgesic, methylen-blue as 340
  - mixture for tooth-extraction 158
- Analgesin 19, 20, 319
  - and chloral hydrate 97
  - and its incompatibles 171, 187, 200
  - and quinine valerianate 410
  - , test for 406
  - valerianate 410
- Analogies and affinities 41
- Anamirta Cocculus 368
- Andromedotoxin in folia kalmia latifolia 77
- Anemia Californica 11
- Anemone pulsatilla 420
- Anemonin 420
- Angina, Rousseau's collutory for 49
- Anhydro-sulphites 348
- Anilin dyes as antiseptics 390
- Animals, digestion and feeding of 181
  - and drugs, susceptibility of to 187
  - , effect of amido-camphor, of camphor, and of bornylamin on 248
  - , effect of belladonna on 187
  - , phosphorescence of—cause of 304
- Antiaris toxicaria 189
- "Anti-fat" 330
- Antimony, action of on hogs 187
  - , butter of—What is it? 14, 344
  - , chloride 14
  - , derivation of name 16
- Anti patent medicine combination 423
- Antipyrin—see Analgesin
  - and Dr. Knorr 139
- Antisepsin 262
- Antiseptic dressing, Lister's 59, 88, 418
  - gauze 417
  - , saccharin as an 341
- Antiseptics, anilin dyes as 390
- Antiseptol 388

Page.
Antithermin ... 89
Anthelmintic, Corsican moss as a ... 323
    , new ... 156, 323
Anthrarobin ... 202
Aphyllon californicum ... 262
Apomorphine solution, green color of ... 47
Apothecary, The Ancient ... 210
Apotheker Verein, meeting of ... 392
Aqua lauro-cerasi ... 116
Arbor vitæ ... 183
Arbutin ... 409
Areca catechu ... 231
Arecoline ... 231
Aricine ... 157
Aristol ... 52, 128, 201, 305
    , to make ... 319
    , value of ... 160
Aromatic pastilles ... 388
Arrow poison ... 267, 412, 423
    root ... 349
Arsenic ... 340
    , effect of on stomach ... 340
    , tri-sulphide—poisoning by ... 304
Asbestos, value of in the laboratory ... 247
Ascarides ... 410
Asclepias Mexicana ... 235
    verticillata ... 235
Aseptic, Huchard's ... 49
"As others see us" ... 101
Asparagin ... 87
Aspidosperma Quebracho ... 44, 62
Assafœtida, requirements of good ... 231
    , source of ... 189
Association (National) of Wholesale Druggists ... 326
Asthma ... 182, 242, 300
Athrepsia, Dupre's mixture for ... 305
Atropine ... 25, 155, 181, 182
    ferrocyanide ... 267
    sulphate ... 136
Attar of rose, adulteration of ... 296
Authorities, citation of ... 104
Azolitmin paper ... 47

B.

Bacterial poisoning ... 116
    , through medicines ... 171
Baldness ... 163
Banana ... 216
Barium sulphide as a depilatory ... 48
Barosma betulina ... 346
    crenulata ... 347
    serratifolia ... 347
Bauhinia Rusbyi ... 13
Bed-sores ... 362
Beef powder as nutriment ... 242, 394
    cacao ... 394
Beer, adulteration of (hop substitutes) ... 201
    , lager—pharmacology of ... 276
Beet sugar manufacture ... 250
Beetle, a perfume-giving ... 276
Belladonna ... 35
    , action of on animals ... 187
        rodents ... 187
    alkaloids ... 389
    glycerin ... 170
    , Japanese ... 2, 18, 25
    plasters ... 340
    scopolia ... 2, 18, 25
    , substitute for ... 3, 18, 25
Benzosol ... 267
Berbamine ... 139
Berberine ... 139
    sulphate ... 137
Berberis aquifolium, alkaloids of ... 139
Betel-leaf oil ... 126
Beverage fountain, a practical ... 372
Beverages, Bismarck's ... 244

Page.
Biliary secretion—action of vagus nerve on ... 86
    , solubility of ... 389
Birch tar, economic value of ... 276
Birds, action of coffee on ... 187
        hyoscyamus on ... 187
        sapendus edulis on ... 187
Biscuit, kola-nut ... 158
    , malt and hypophosphites ... 388
    , medicated ... 48, 158, 388
Bismarck's beverages ... 244
Bismuth in elixirs ... 83
    salicylate—caution regarding ... 228
    subnitrate explosive with a bicarbonate ... 407
    trisnitrate ... 407
Bitter drugs, action of on stomach ... 45
Bladderwrack, iodine in ... 138
Blenorrhagia ... 410
Blindness of infants from maternal vaginitis ... 363
Boils ... 270
Boldo ... 77
    and cocaine, incompatibility of ... 61
"Bomba" ... 271

Book Reviews:
    Address in Hygiene—Mays ... 281
    Agricult. Exp. Station California, Bulletin ... 54, 194
        College Bulletin of Mich ... 193, 309
    Catalogue of Plants of New Jersey—Britton ... 192
    Compend of Chemistry—Leffman ... 310
    Consular (U. S.) Reports ... 54
    Equine Anatomy and Physiology—Ballou ... 310
    Flora of British India.—Hooker ... 193
    Grasses of the South-West—Vasey ... 382
    Hypodermic Medication—Stockwell ... 310
    International Med. Congress Report ... 38
    Kew Garden Bulletin ... 132, 164, 193, 235, 416
    Laboratory Guide—Witthaus ... 164
    Latin Grammar of Pharmacy and Medicine—Robinson ... 381
    Lessons in Botany—Wood ... 22
    Manual of Pharmaceutical Testing—Proctor ... 310
    Medical Dictionary—Gould ... 132
    Pharmacographia Indica—Dymock, Worden and Hooper, 415
    Plantes Médicinales Indigenes et Exotiques—Egasse ... 163
    Practical Electro-therapeutics—McGee ... 193
    Real-Encyclopädie der Gessammten Pharmacie—Gessler and Moëller ... 194
    Repertoire General de Pharmacie Pratique—Dorvault ... 55
    Secret Nostrums and Systems—Oleson ... 382
    Torrey Botanical Club Bulletin ... 319, 382
    Trinidad Agricultural Record ... 22
        Royal Botanic Garden Report—Hart ... 91, 382
    West. Amer. Scientist ... 415
    Zoe—a Biological Journal ... 414
Borage ... 300
Borago officinalis ... 300
Borax ... 183
Bornylamine, effect of on animals ... 248
Boroglycerid ... 419
Botanical garden,—Buysmann's ... 352
    nomenclature, changes in ... 105, 209
Botany in pharmaceutical education ... 396
Bottles, broken—to utilize ... 82
    , safety for poisons ... 273
    , sample for perfumes ... 344
Bottling (metric) apparatus ... 117
Boycotting patent medicines ... 423
Brandy, bouquet of ... 276
Bromide eruptions ... 353, 354
    of gold ... 346
Bromidrosis (stinking feet) ... 369
Bromoform ... 52
    , pharmacology of ... 266
Brown-Sequard's Elixir (see Spermine also), 100, 123, 172, 275, 378
Brucine ... 154
    ferrocyanide ... 267
Buchu ... 347
Buckthorn bark ... 316
"Bugle-weed" ... 300

Page.

- " Bugle-weed," bitter 300
- Buildings and trees 225
- Burns, liniment for 305
- Bursera microphylla 405
- Butter-milk in therapeutics 261, 331

C.

- " Cacachilla " 405
- Cacao 13
- Cade, oil of 158
- Caffeine 37, 217, 404
  - , hypodermic use of 299
  - and mercuric chloride 306
  - sodium mono-bromide 217
  - and tea leaves 323
- Caffeone 217
- " Caincin " 409
- Calabarine 108
- Calcium chloride ointment 422
  - sulphide 354
    - , eruption from 354
- " Caliche " 180
- Calliandra Boliviana 13
- Calomel and alkaline chloride 315
    - corrosive sublimate 362
  - plaster 187
- Caltha flabellifolia 81
- Camphor, action of 182, 248
  - tree in Florida 155, 342, 423
- Camphors, pharmacy of the 248
- Canada balsam for microscopists 419
- Cañaigre 365
- Cannabis Indica 376
- " Canschi " 119
- Capparis oleoides 299
- Capsicum annum 228
- Capsule-filler, a new 26
- Carbon, new process of production 321
- Carbonated waters, effect of on digestion 340
  - as anæsthetics 354
- " Carpenter's square " 312
- Carpet oil stains, to remove 156
- Cascara amarga 299
  - sagrada (see Rhamnus Purshiana) 316
    - and allies 334
    - , falsification of 20, 62
    - , fluid extract of 80
    - , resin of 61
- " Cassareep " 271
- Cassava 270, 271
- Cassia chamæchrista 13
  - occidentalis 349
  - Covesii 405
- Castalia Leibergii 81
  - tetragona 81
- Castanea americana 402
- Castor beans 30
  - oil, coloring 263
    - plant 30, 219
    - and santonin mixture 276
- Catalapa speciosa, therapeutic value of 321
- Catarrh, pharyngeal and nasal 182
- Cat-gut, sterilization of 304
- Catha edulis 189
- Cat mummies 87, 89
- Cats and saccharin 302
- Cattle, horned—action of hyoscyamus, corn-poppy, manihot, etc., on 187
- Cement for glass labels 48
    - pottery and earthenware 28
  - , the strongest—how to make 355
- Census, a mythical drug 328
- Chapped hands 362
- Chaulmoogra plants 29, 138
- Cheese, new poison in 423
- Chemicals, official solubility of 389
- Cheques, drawing of 226

Page.

- CHESTNUTS 85, 186, 226, 263, 303, 345, 375, 408
- "Chia" 262
- "Chicoria " 405
- Children, constipation of 377
  - , substitute for mother's milk for 402
- Chinese putty (cement) 28
- Chloralamid 93
- Chloral-analgesin (Hypnol) 158
  - hydrate 97
    - , administration of 170
    - , dose of 388
- Chloroform 68
  - , cause of death from 69
  - and dogs 69
  - liniment 402
  - ointment 349
  - poisoning, antidote for 138
  - water as a preservative of solutions 31, 348, 422
- Chocolate purgatives 138
- Cholera 127, 355
- Chondrus crispus, iodine in 138
- Chrysanthemum leucanthemum 273
  - cinerafolium 274
- Cicuta Bolanderi 43
  - bulbifera 43
  - californica 43
  - maculata 43
  - occidentalis 43
  - purpurata 43
  - vagans 43
  - virosa 43
- Cigars, self-lighting 391
- Cinchona, comp. tinct.—error in National Dispensatory formula 262
  - cultivation 202
- Cinchonidia sulphate 387
- " Cleavers " 406
- Clerks, drug—and socialism 177
- Clitocybe media 43
- Clove culture in Zanzibar 239
- Coca 13, 35, 36
- Cocaine 13, 362, 404
  - ferrocyanide 267
  - , incompatibility of with borax 61, 228
  - pencils 28
  - and phenol 331
  - poisoning 61, 331
- Cocculus Indicus 368
- Coccus pela 272
- Cochineal color 15
  - ink 47
- Cocillaña 6, 212, 217
- Cockroaches, destruction of 201
- Coco 13
- Cocoanut butter 403
  - oil 13
- Codamine 420
- Codeine 261
- Cod-liver oil, action of on malt 87
  - emulsification of 126
  - and malt—quantitative analysis of 200
- Coffee, action of on birds 187
  - crop a failure 414
  - and digestion 218, 340
  - , empyreumatic oil of 217
  - , Liberian 414
  - , Mussœdena 29
  - , " Niger " 349
  - , oil of 217
  - , substitutes for 349
  - tablets 201
- Cola acuminata 189
- Colchicum 35
- Cold, employment of in prep. of extracts 74
  - , to prevent taking 331
- Collianda 405
- Collodion, flexile 231
  - , salolized 47

Page.
Colloidal solutions, freezing of 418
Color, cochineal 15
Colors for show globes 302
Condurangin 201, 353, 409
Condurango, pharmacology of 353
Congress, Tenth International, and Pharmacy 279
, value of 279
Conium 35
leaves, assay 333
, fluid extract of 331
seed, assay of 331
, fluid extract of 331
CONNORS L. MYERS 363
Conservatism *vs.* Pharmaceutical Progress 358
Constipation in children and infants 377
, habitual 331
Convallamarin 299
Copaiba 13
, eruption from 354
oil 126
Copaifera Langsdorfii 13
Copper in solid extracts 6
"Cordillo de porro" 258
"Cordoncello" 405
Coriaria thymifolia 45
Corks, a possible source of 370
, utilization of old 98
Corn, bacterial diseases of 17
poppy, effect of on animals 187
Corns, remedy for 318
Cornutin 385
CORRESPONDENCE.
Chicago news 130, 192, 233, 350
German letter, 19, 51, 89, 126, 160, 230, 266 306, 319, 378, 411
London letter, 18, 49, 87, 124 159, 188, 228, 265, 305, 347, 377, 410
New York letter, 20, 52, 90, 128, 161, 190, 232, 267, 307, 327, 380, 413
Paris letter, 16, 48, 86, 123, 157, 187, 227, 304, 346, 376, 409
Corsican moss as an anthelmintic 3 3
Coryza 300, 316
Cosmetics, amount of money invested in annually in U. S., 391
Coto 13
Cotton, medicated 171
-seed oil 44, 342
wool, adulteration of 379
Cough, whooping—see Pertussis
Cousin Mahant 258
Cows, effect of hyoscyamus on 187
CRAIGHILL, DR. E. A 397
Cratæva religiosa *var.* nurvala 116
Crayons, medicated 49
Cream, cold—formula for 48
, refrigerant 320
—lead 320
—lime water 320
—zinc 320
of roses"—Funk's 225
tartar (see Potass. bitart.)
Crotalaria paniculata 368
Croton alabamensis 300
Crows, action of coffee on 187
hyoscyamus on 32
Crucibles, platina—soldering of 32
Cryptopine 420
Cubebs, eruption from 354
Cumin seeds 35
Curare 108
Current topics 75, 110 178, 210, 256
"Curry" leaves 347

D.

"Damiana" 309, 405
Dammar, for microscopists 410
Dandruff (see Scalp diseases also) 27, 163
Deafness 331
Dean's medium, for microscopists 419
Decay of textile fabrics, to prevent 276
Deer, effect of hyoscyamus upon 187
Delirium tremens 228
Dentifrice, antiseptic 187
Depilatory, barium sulphide as 99
Derris uliginosa 368
Dextrin in corn 155
Diabetes, jambul in 340, 403
Diachylon plaster 187
Diamide 89
Diarrhœa 235, 300
, chronic 217
mixture (Squibb's) 183
, tuberculous 217
Digestion 346
, effect of alcohol on 340
carbonated waters on 340
coffee on 218, 340
pareldehyd on 340
strychnine on 340
tea on 340
thallin on 340
Digestive table sauce, a French 304
Digitalein 346
Digitalin 299
, amorphous 346
, chloroformic 346
, crystallized 346
Digitalis 44
, action of on snails 187
, preparations—strength of 346
Diospyrus montana 368
Diphtheria 188
poison 160
Disagreeable drugs, administration of 187
Disinfectant, chloride of lime as 331
Disinfection of houses 362
Dispensing mistakes—see Pharmacists
, by weight or measure 48
Distemper, canine 208
Ditania digitifolia a fraud 217
Diuretics 299
Diuretin 37, 62, 262
Dobell's solution 408
"Dog thistle" 258
Dogs, distemper in 208
, effect of camphor on 248
chloral on 248
meta-phenylenediamin on 203
ptomaines and leucomaines on 203
thebaine on 187
Dolichos ciliatus 116
soja 113
Drachm, the avoirdupois 303
, new symbol for 97
Drops and minims 14
Drug Journal Census, The Mythical 328
Druggists—see Pharmacists.
Drugs, assay of—see Standardization also 33, 66, 67, 82, 102, 152, 199, 241, 248, 314, 331, 359
, chances of getting good 139
, eruptions from 353
and food adulteration—Unjust Legislation 172
, granulated 227
, non standard 243
, percentage of positively useful 203
, popular use of harmful 3 9
trade, effect of new tariff on 327
Drummer, the cleanly 269
Dysentery 410

E.

ECKFORD, J. W. 329
Ecujin, a new glucoside of arrow poison 267
Ejectments, justifiable 356
Elemin, gum 35
Elixir of bismuth 83

Page.
Elixir *vs.* mixtures ... 343
Elytraria tridenta ... 405
Emetics ... 41
Emetine ... 154, 419
Emulsifying agent, resin soap as ... 125
Enemata, glycerin ... 30
  , nutritive ... 330
Ergot, pharmacology of ... 131, 385
Eriodictyon glutinosum ... 342
Errors in National Dispensatory ... 262
  Formulary ... 263
Eruptions caused by medicines ... 32, 353
Erysipelas ... 331
  lotion—Rothe's ... 49
Erythroxylon coca ... 189, 405
Eschscholtzia Californica ... 68
Esculin ... 409
Ether ... 68
  adulteration ... 246
  drinking ... 325
Ethereal skin preparations ... 320
Ethics, code of for pharmacists ... 1
  , journalistic ... 278
  , progress in—in medicine and pharmacy ... 175
Ethoxy-caffeine ... 217
Ethyl chloride ... 157
  fluoride ... 157
Ethylenimin (see Spermin) ... 278, 379
Euabin ... 409
Eucalyptus rostrata ... 182
Eugenia Jambolana ... 403
Euonymin ... 19
Euphorbiaceæ, the ... 43
Euphorbia officinalis ... 342
  pilulifera ... 300
Exalgin ... 30, 170, 265, 304
  , to distinguish from strychnine ... 30
Excipient, a new ... 346, 388
Explosive prescriptions ... 83, 96, 183, 228, 407
Extract cascara fluid ... 80
  senna-pods fluid ... 243
Extracts, fluid—specific gravity of ... 301
  and pomades ... 273
  , preparation of by cold ... 74
  solid—copper in ... 6
"Eye bright" ... 342
Eyesight and collars ... 362

F.

Fabrics, textile—to preserve from decay ... 276
Face, to remove freckles, pimples, and tan ... 318
  powder, formulæ for ... 15, 345, 388
    , Penaud's ... 15
    , "pistachio" ... 15
    , Pozzoni's ... 15
    , rice ... 15
    , Rimmel's ... 15
    , "swansdown" ... 15
FACETIÆ ... 23, 55, 91, 133, 164, 194, 236, 269, 311, 385, 415
"Fair dispensers" ... 24
Farrant's medium ... 419
Febrifuge, new ... 45
Female diseases ... 405
Ferula narthex ... 189
Fevers ... 45, 405
Ficus elastica ... 155
Fig, Indian ... 219
Filtering, automatic ... 48
Fir, Douglass ... 370
  , Oregon ... 370
  , red ... 370
  , yellow ... 370
Fire extinguishing, hand grenades for ... 203
Fish, action of hyoscyamus on ... 189
  poisons ... 368
Fleming's solution ... 302
"Floating tissue" ... 13

Page.
Flueggea Leucopyrus ... 269
Fluroform, a new anæsthetic ... 157
"Flux weed" ... 406
Food inspectors, pharmacists as ... 33
  , a new prepared ... 156
  products, new economic ... 262
  , wood fibre as ... 181
Foods, new discovery in concentrated ... 394
Fountain, practical for beverages ... 372
"Four corners of the world" ... 406
  wonders of the world ... 406
Frangipanni essence, origin of ... 45
Frangulin ... 59
Franseria ambrosioides ... 405
  tenuifolia ... 405
Fraxinus Chinensis ... 272
Freckles to remove ... 318
Frogs, effect of chloral on ... 240
  sugar on ... 187
Fruit, action of on economy ... 216
  syrup, new ... 201
"Fuba" ... 271
Fucus vesiculosus, per cent. of iodine in ... 138
"Funje" ... 271
Funk's "Cream of Roses" ... 226
Funnel, a simple separating ... 120
Funny incident at Pharmacopœial Convention ... 204

G.

Galactia montana ... 13
Galium Apurine ... 406
  pilosum, *var.* puncticulosum ... 406
  verum ... 406
Gall-stones, cotton-seed oil for ... 44
  , olive oil for ... 44
Garden, Botanical—at Baltimore ... 195
  —Prof. Buysmann's ... 352
  —Kew ... 197
Gargle, a ... 15
Gas, natural—chemical name of ... 183
Gauze tissue, protective ... 242, 417
Gelatins, medicinal ... 203
  , water-proof ... 183
Geoglossum vitellinum ... 43
Gerardia pedicularia ... 342
Germicide, sulphur as ... 396
Geum album ... 300
  rivale ... 300
"Gian" ... 272
Ginger, soluble essence of ... 98
Glass filter ... 323
  stoppers, to loosen ... 16
  tubes, cutting of ... 14
Globes, show ... 158, 356
Glucosides, character of ... 409
  , reagent for ... 409
Glycerin and acid carbolic for microscopists ... 419
  arsenic—removal of from ... 348
  belladonna ... 170
  enemata ... 30
  jelly for microscopists ... 419
  for microscopists ... 419
  and salicylic vinegar for microscopists ... 419
  suppositories ... 30, 344
  , new test for ... 379
Glycine soja (G. hispidus) ... 113
Gnostopine ... 420
Goadby's medium ... 419
Goats, action of aconite on ... 187
  hyoscyamus on ... 187
  tobacco on ... 187
Goa powder ... 202
Goanese ipecac ... 212
Gold, bromide ... 346
  , buried in teeth ... 226
Golden-seal ... 51
Goltua ... 45
Gonococci ... 362

Page.
Gonorrhœa 300, 362, 402, 405
Grafting wax 116
Gravity, specific 16
Grindelia robusta 39
"Grania" 405
Grocers *vs.* pharmacists as dispensers of family remedies 245
and the spirit trade 109
Guaco 376
Guarana 323
Gynocardia odorata 369

H.

Hæmorrhage, from bowels 14
, after tooth extraction 330
Hæmotoxylon boreale 405
Hair-wash 31
Hairs, superfluous—to remove 99
Hand-grenade fire extinguishers, how to make 203
Haplopappus baylahuen 39, 217
HAWES, J. B. 250
Hay-fever 331
Hebra's ointment 52
Hemlock, "water" 43
Herbaria, advantage of to pharmacists 4
, different in U. S. 5
Herbs, dried 124
Herniaria 376
glabra et hirsuta 376
Herniarine 376
Heuchera, the 300
"Hollyhock" 406
Homœopathic profession *vs.* practice 341
HOOPER, DAVID 368
Hops, determination of lupilin in 273
, substitutes for 201
Horses, action of aconite on 187
hyoscyamus on 187
manihot on 187
morphine on 187
Horsfordia Palmeri 405
Houttuynia Californica 10
cordata 11
"How Thankful We Should Be" 186
Hunyadi Janos, artificial 28
Huxam's tincture 84
Hybridity and sterility 216
Hydrastine 2, 51
Hydrastinine 1, 51, 93, 95
Hydrastis 139
Hydrazin 89
Hydrocotarnine 420
Hydrogen per-oxide 331, 422
HYNSON, HENRY P. 6
Hyoscine, crystallized 138
vs. hyoscyamine 352
poisoning 252
Hyoscyamine 18, 25, 155, 324
, action of on birds, cows, deer, fish, goats, hares, man, monkeys, rodents, and sheep, 187
vs. hyoscine 352
, new source of 3
Hypericum, action of on sheep 187
perforatum 235
Hypnal or hypnol 158
Hypnotics, new 49, 87, 158
Hypnotism an excuse for crime 346
Hypodermic injections of aconitine 422
caffeine 299, 422
codeine 422
eserine (phyostigmine) 422
ergotin 422
pyrethrotoxic acid 404
quinine 61
strychnine 422
solutions, chloroform water for 31, 34, 422
, Eucalyptus water for 422
, permanent 422
, salicylic water for 422

Page.
Hypodermic solutions, thymol water for 422
syringes to clean 8
Hyptis latifolia 405
Hystérionica baylahuen 39, 217

I.

Ice, artificial—more profitable than natural, 207
Icerya Purchasi (fluted scale insect) 272
Ilex paraguayensis 189
Illicium anisatum 42
religiosum 42
Incompatibles.... 61, 76, 168, 171, 187, 200, 228, 306, 403, 407
India fish poisons 368
-rubber gum—economic use of 155
for pavements 155
Indian hemp 371
medicine 406
Influenza 2, 17, 49, 86
Injections, see Hypodermic.
, urethral 402
Ink, blue—for rubber stamps 47
, indelible anilin 317
plants 45
, red—formula for 47, 420
for type writers 170
Inks, sympathetic 420
Insect, a perfume 276
, fluted scale (Icerya Purchasi) 272
powder, testing 273, 404, 405
wax, African 272
"Instanata" 405
Interference, Misguided 323
Intoxication, ether 325
Iodide eruption 353, 354
Iodine in fucus vesiculosus 138
"leaves" 17
plasters 187
wine 124
Iodoform, camphor a solvent for 242
, deodorized 139, 388
vs iodol 319
, manufacture of 16
odor, to remove 139, 388
Iodol *vs.* iodoform 319
Iodo-sulphate of cinchonine 388
Ipecac, Goanese 212
Iron, iodide—syrup of 123, 231
, nitrogenized 83
, pyrophosphate—solubility of 121
, soluble saccharate 40
Isocholin 385
Itch 362
Ivy, "wild" 116, 402

J.

Jaborandi 35
Jaborine 154
"Jam" 403
Jamaica dogwood 368
"Jaman" 403
"Jambava" 403
"Jambolanum cap flower" 403
Jambosa vulgaris 379
"Jambu" 403
Jambul 44, 340, 379
Jamunt 403
Janipha manihot 270, 271
Jars, old medicine—to utilize 64
Jatropha manihot 270, 271
Jeffersonia diphylla 342
Jequirity, active principle of 266
poisoning—see Abrus.
JOHNSON, A. L. 9, 74, 117, 149
Journalism, ethics of 278

K.

"Káláján" 403
Kalmia latifolia 77

Page.
"Kanchi" 116
root 116
Karwinskia Humboldtiana 405
"Kat" 189
Kerosene, non-explosive a humbug 262
"Khat" 189
Koch and tuberculosis 378, 395, 411
Koch's "lymph" 423
Kœnigin 348
Kola 323, 414
Krameria canescens *var.* paucifolia 405

L.

Labels, descriptive for new remedies 163
, glass—cement for 48
, poison on prescriptions 84
Laboratory novelties 324
Lachnanthes tinctora, action on swine 187
Lac sulphur 411
Lacto-serin, preparation of 156
Lactuca canadensis 244
virosa 244
Lactucarium and wild lettuce 244
"Lady's bedstead" 406
La Grippe, see Influenza.
Lanolin 19, 161, 421
milk 273, 422
ointment 320
Lanthopine 420
Laudanine 420
Laudanosine 420
Laurel, wild (Kalmia)—andromedotoxin in 77
, winter 116
Lavender, antiseptic properties of 17
Lead acetate in prescriptions 83
, solubility of 121, 389
oleate, ointment of 52
Ledum glandulosum 406
Legislation, careless 246
, unjust 173
Leguminosæ, nourishment of 116
Lemon-juice, artificial 354
Lettuce, wild (lactuca canadensis) 244
, opium (lactuca virosa) 244
Leucomaines, chemical relations of 203
Levulinic-phenyl-hydrazin 89
Libel suit for $200,000 (Radam's) 324
Lice in therapeutics 183
Ligustrum lucidum 272
LILLARD, W. B. 152
Lime chloride as a disinfectant 331
, phospho-glycerite of 17
Liniment for burns 305
Liquids, to remove floating specks from 344
Lithia carbonate, pills of 124
Logwood, scarcity of 300
"Low mallow" 406
Lupulin, determination of in hops 273
Lycopus europæus 300
virginicus 300
"Lymph," Koch's 423

M.

Macaranga, species 369
Malaria 305
Male-fern, extract of 349
, oleo-resin of 83
, toxicity of 386
Malt, action of on cod-liver oil 87, 200
, to determine the diastatic power of 94
Malva rotundifolia 406
Mandragora, see Scopolia.
Manihot 270, 271
, action of on cattle, horses, man, rodents, sheep, and swine 187
Aipi 270, 271
utilissima 270, 271

Page.
Mannas 347
Maranta arudinacea 349
"Mariola" 405
Marsh mallow 406
"Maruk-kallan-kai" 368
"Marve"
Maté, alkaloid of 323
"Matrimonio secretio" 356
McEACHREN, PROF. JUSTIN W. 254
Measures, wine and imperial—weights of 301
Meat powder 243
Meconidine 420
Medical Congress, Tenth International 126
sorcery 87
superstitions 87, 88
Medicated waters, making of 417
Medicinal eruptions 32
Medicine, absorption of from ointments 420
, ancient Egyptian 189
, progress in ethics of 175
Medicines, device for administering unpalatable 28, 402
, Indian 406
, explosive—see Explosive.
MEIER, H. F. 76
Melanthera Brownei 45
Menthol, how to administer 139
snuff 29
Menu of Banquet of Royal College Surgeons, Ireland 269
Mercurial vapors, reagent for 16
Mercury bi-chloride and caffeine—incompatability of 306
in midwifery 125
, solubility of 389
, use of 49
cyanide, detection of 136
iodide 348
, how to weigh 343
and zinc, double cyanide of 88
Merz Capsule Co.—short weight products of 268
"Mesquitilla" 405
Meta-bisulphites 348
Methylated spirit, comparative test for 348
Methylen-blue as an analgesic 340
Methyl-phenacetin 267
-violet 263
Metric-system 145, 381
Mexico, wheat growing in 216
, opium culture in 392
Miamosa, species of 13
Microscope in pharmacy 240
, reference tables for 418
, preserving and mounting objects for 419
Mikania guaco 376
Milk, butter- 261
, sterilized 243
, sterilizing apparatus for 137
, substitute for mother's 402
sugar, solubility of 389
of sulphur 411
Millettia pachycarpa 369
Minims *vs.* drops 14
Mirrors, how made 156
Misguided Interference 327
Mistakes—see Pharmacists.
Mixtures *vs.* elixirs 343
, "shake" 344
Moles, to remove 362
Monkeys, action of hyoscyamus on 187
MONTHLY REVIEW 13, 41, 80, 113, 135, 181, 216, 260, 299, 340, 369
Morphine acetate and muriate 231
, action of on equines 187
hydrobromate 120
solutions, alterations in—see Hypodermic 31
Mortars, to clean greasy 262
Mosquera's "beef meal" 394
"beef cacao" 394
"Mountain peach" 342
"Mtuvaboah" 45

Page.
Mucilage, postage-stamp 226
Mummia Ægyptica 88
Mummies, cat 88
Mummy, Egyptian—how preserved 276
Mundulea suberosa 368
Murraya Kœnigii 347
Musk, synthetic 87, 124
Musquito pastilles 318
Mussœdena coffee 29
Mustard, oil of 379
Myrtol 160

N.

NAGELVOORT, J. B. 77, 152
Naphthalin, deodorizing 420
  suppositories 410
Napthol, *beta* 188
  , *beta* and *alpha*—distinctive test of 97, 158
  , bismuth and soda, explosive 228
  , emulsifying 16
Narceine, artificial 138
  ferrocyanide 267
Narcotine ferrocyanide 267
Naregamia alata 212
Nasal douch, dangers of 402
National Dispensatory, error in 262
  Formulary, errors in 263
    , object of 400
    , for physicians 397
  Wholesale Druggists' Association Meeting 326
Natural gas, chemical composition of 183
"Navel" 403
Nerve, vagus—action of on biliary secretion 86
Nesæa verticillata 13
Neuralgia, lumbar 188
Neuralgic ointment 305
Nitrate deposits of Chili 180
Nitre, sweet spirit of—estimate of ethyl nitrite in 124
  —purity of 96
Nitrogen nourishment of plants 116
Nitro-glycerin 242
Nitrous ether, see Nitre.
Nomenclature, botanical 158, 219
  , chemical—proposed change in 17
  , incongruities of popular 120
Normal liquids (see Drug assay and Standardization) 67
Novelties, laboratory 324
Nux vomica 35, 44, 154, 359

O.

Oats, smut of 14
Obesity, reduction of 330
Oil of betel leaves 126
  cade, dispensing of 158
  castor, coloring 263
    , plant of 219
    , mixture with santonin 376
  chænoceti (a whale product) 354
  coal (kerosene)—non explosive a humbug 262
    —to remove stains of from cloth 156
  cod-liver—see Cod-Liver.
    , action of 319
    —in malt combinations 200
  coffee, empyreumatic 217
  copaiba 296
    , emulsification of 126
  cotton seed, for gall stones 44
    , wholesomeness of 342
  eucalyptus, identification of 355
  ginger 296
  male fern 83
  mullein 402
  mustard 379
  olive and gall stones 44
  pennyroyal, source of 341
  rose, adulteration of 296
  sandal wood, emulsification of 126
  wintergreen as a source of salicylic acid 343
Oils, fixed, emulsification of 126
Ointment, anti-neuralgic 305
  , double mercuric chloride—rapid preparation of 34
  , refrigerant 320
    —ichthyol 320
    —lead 320
    —lime water 320
    —zinc 320
Ointments, absorption of medicines from 420
  , collapsible tubes for 202
  , coloring for 390
  , cooling 320
  , cream 320
  , to fill narrow mouthed bottles with 226
  , Hebra's 52
  , lanolin 320
  , mill for making 406
Oleate of mercury 73
Oleite 322
Onosmodium carolinianum 300
Opium alkaloids, new 420
  , camphorated tinct.—rapid method of preparing 15, 263
  , compound tincture 183
  , concentrated preparations of 84
  cultivation in Mexico 392
  , pudding ("Boston opium") 109
  supply 207
Opuntia Ficus-Indicus 219
  tuna 219
    manse 219
Orange, "mock" 116
  , Trinidad *vs.* Florida 115
  , "wild" 116
Orexin 89, 190, 203(2)
  hydrochloride 89
Orovylin Indicum 306
Oroxylum Indicum 348
Orpiment poisoning 304
Orthin 89
  hydrochloride 89
Oubain 216
Ounce symbol in England 302
Oxycanthin 139
Oxyethylacetanilid 267
Oxysapogin 376
"Oyason" 405
Ozone 161

P.

Painter, Prof. Emlen—demise of 38
Palm-kernel oil 81
  -nut oil 80
  oil 80
    , manufacture of 80
Pambolano 218
Pambotano 123
  a fraud 218
Pancreas, new function of 261
Pancreatic ferments 261
Pancreatin 60, 124
Papaver somniferum 42
Paper, "usego"—as substitute for capsules 190
Paraguay tea, alkaloid of 323
Paraldehyd 82
Paramonobromoacetanilid 262
Paregoric, short method of making 15, 263
Pareldehyd, effect of on stomach and digestion 340
Parophyllum gracile 405
Paspalum distichum 405
Paste that will stick 242
Pastilles, anti-mosquito 318
  , aromatic 388
Patent medicine manufacturers liable to the public 2
  question, the 398
Peach, "wild" 116
Pediculis pubis 402
Pelleterine 154

Page.
Pengawar djambi 260
Pennyroyal oil 341
Pepsin 60, 369, 403
table salt? 159
, doses of 356
testing 73
Pepsins, comparisons of the 185
Peptose 370
Percolation, various methods of 329
Perfume gardens 155
insect, a 276
nomenclature 155
, sample bottles for 344
" Persoon " 342
Pertussis 52, 216, 331
Peru balsam 182
, injection of 62
Peumus boldo 77
Phanerogams of North America 81
Pharmaceutical Association, American 65, 191, 249, 277
, Wisconsin 268
education 7, 235, 396
nomenclature, changes in 231
press, abroad 244
progress, French criticism on 393
writing, novelty in, ... 247
Pharmaceuticals, necessity of testing 360
Pharmacist, the—of the Elizabethian period 210
, misplaced confidence of a 302
, the—as a manufacturer 152
, suit against a 120
, " When he comes into his kingdom " 206
Pharmacists, as bacteriologists 63
' clerks, salaries 256
, code of ethics for 1
, compliments to 205
, conservative *vs.* progressive 356
, coöperative 209
and cutting 291, 397
, dispensing—precautionary notes for 122
as food inspectors 363
vs. grocers as dispensers of family remedies 245
and herbaria, advantages of to 4
as hustlers 247
and jury duty 100, 110, 204
and law, a point in common for 144
losses, in transit and breakage 343
and medical journals 140
, the metric system for 381
as microscopists 111, 240
mistakes 51, 302, 345. 374
and physicians 120, 210
, prescribing 402
profits 174
night bells 244
, repeating prescriptions by 21 23
, shorter hours for 246
, show bottles—origin of 356
windows 408
, " Therapeutic Notes " for 330, 362, 401
, a toast for 63
and trademarks—a legal decision 204
, a word to 234
, women as 172
Pharmacognosy at N. Y Coll. of Pharmacy 107
, study of 342
Pharmacology, Homœopathic 182
Pharmacopœia, Danish—new 31
, German 412
, obligations of a 108
, Dr Squibb on 152. 182
of U. S.—publication of 150
—revision of 105, 131
, a universal 63
, what shall be embodied in a 361
Pharmacopœial Convention, The 100, 141
Pharmacopolist, the modern 344
Pharmacy, ancient Egyptian and antiquity of 189

Page.
Pharmacy, bright side of 6
, Buffalo College of 192, 243, 392
, Chicago College of 99
, coöperative 356
, Detroit College of 357
, the downfall of 280
, early history of 4, 145
, ethical and legal aspects of 8, 146 175,
, evolution of 4, 145, 281
, examination questions in 84, 185
and the fair sex 172, 204
of the future 145
, German 279 412
, Illinois College of 63, 100, 172, 351
, inherent rights of 167
at the Tenth International Congress 279
, the microscope in 111, 240
, preliminary requirements of 70
, is it a profession or trade 247
, progress in ethics of 175
Section of Board of Trade 423
, socialism in 177
and tariff, effect of new on 327
, does it satisfy modern therapeutics? 199
trade, a victory for the 205
in Venice 172
Phenacetin 52
" Philosophy " 264
Phospho-glycerites 17
Phosphorescence in animals—cause of 304
Phosphorus 331
Photopel 323
Phthisis, intensive treatment of 267
, night sweats of 182, 242, 330, 403
Physicians, dispensing 21
, the National Formulary for 397
and pharmacists 211
Physostigmine, test for 274, 341
Picea Douglassii 370
Pichi 217
"Pick-me-up" after a debauch 362
Picrosclerotin 385
Picrotoxine 368, 404
Piligan 217
Piliganine 217
Pills of lithia carbonate 124
permanganate of potash 124, 157
Pilocarpine 108, 154
muriate 108
Pimples, to remove 318
Pine, Oregon 370
Pinus Douglassii 370
var. occidentalis 370
taxifolia 370
Piscidia erythrina 368
"Piwarrie" 271
Plants, revised names of New Jersey 219
in sleeping rooms 423
, seedless 216
, variations of by habitat 216
Plaster, calomel 187
, diachylon 187
, India rubber 124
, iodine 187
Plumeria rubra (Frangipanni) 45
Pneumonia 228
Podophyllin 239
Podophyllum 239
Emodi 239
Poisoning, arrow 267, 412, 423
, arsenical 304
, asphyxia and narcotic—artificial respiration for 389
, bacterial 116
—through medicines 171
, cheese 423
, chloroform—antidote for 138
, cocaine 61, 331
, diphtheritic 160

Page.

- Poisoning, hyoscine 352
  - , jequirity 182
  - , male fern 386
  - , opium—atropine in 181
  - , orpiment 304
  - , patent medicine 159
  - , picrotoxine 404
  - , ptomaine and leucomaine in dogs 203
  - , garden rhubarb 362
  - , rhus 402 (2)
  - , salol 355
  - , serpent—reputed antidotes for 235, 300, 406, 415
  - , uranium 413
  - , urechites 412
- Poisons, fish 368
  - , safety bottles for 273
- Pomade extracts 273
  - , vaselin 58
- Pomegranate root bark 154, 419
- Potassium bi-chromate 231
  - bi-tartrate 245, 246, 348
    - , solubility of 389
  - cyanide, is it toxic 86
  - di-chromate 231
  - iodide, solubility of 389
  - nitrite, extemporaneous preparation of 406
  - permanganate pills 124, 157
  - per-rutheniate 97
  - sulphate, solubility of 389
- Potatoes, economic value of 155
  - , sweet 216
    - —saccharine substance in 117
- Powders, sifting 16
- Polygonum Fagopyrum—action of on swine 187
- Precipitate and sediment 14
- Precipitates, washing 15
- Pregnancy, vomiting of 182
- Prescribing, metric 75
  - proprietary and patent medicines 398
- Prescription excentricities of the olden time 145
  - hieroglyphics 373, 374
  - , a puzzling 374
- Prescriptions, dispensing errors in—see Pharmacists mistakes, 262
  - , explosive 83, 96, 183, 228
  - , incompatibles in—see Incompatibles 168, 171
  - , inexecutable 158
  - , metric 47
  - and patent medicine advertisements 400
  - , poison labels on 84
  - , repeating 21, 23
- Preservative and mounting mediums for microscopists 397
- Proprietary med. manufacturers—liabilities of 2
  - preparations—Pharmacopœial recognition of 151
    - , prescribing 398
- Prunus caroliniana 116
  - laurocerasus 116
- Pseudo-morphine 420
- Pseudosuga Douglassii 370
- Ptomaines, chemical relations of 203
  - poisoning in dogs 203
- Publisher's announcement for 1891 358
- Pulsatilla 116
- Purgative chocolates (bon-bons) 138
- Putty, Chinese 28
- Putz pomade 263
- Puzzling inscription, a 31
- Pygmies, African 423
- Pyóktanin 190, 362, 398
- Pyrethrotoxic acid 404
- Pyrethrum Indicum 274, 404
- Pyridin 89, 410
- Pyrodin 89, 410
- Pyrogallolum 231

Q.

- "Quanga" 272
- Quicksilver, how to weigh 343
- Quinine and analgesin valerianate, double 410

Page.

- Quinine, ferrocyanide 267
  - , hypodermic use of 96, 305, 320
  - , improved manufacture of 389
  - , masking taste of 402
  - muriate, extempore 96
  - , protection of 38
  - in quinine tannate 201
  - , short-weight capsules of 268

R.

- Rabbits,—see Rodents.
- "Rademaker's Rapid Remedy" 410
- Randia dumetorum 368
- Ranunculus ambigens 218
  - obtusiusculus 218
  - ovalis 218
  - rhomboideus 218
  - rugulosus 218
- Rattle-snake poison—see Poisoning, serpent.
- Reagent, new for *alph*- and *beta*-naphthol 158
- Remedies, new—descriptive labels needed for 162
- Reproduction and obesity (over-nourishment) 216
- Resin soap as an emulsifying agent 125
- Resorcin 331, 376
- Respiration, artificial for asphyxia and poisoning 389
- Rhamnus alnifolia 335
  - california 43, 334, 335, 336, 338
    - *var.* tomentilla 335, 338
  - crocea 335
  - frangula 96, 316
  - occidentalis 334
  - Purshiana 43, 316, 334, 335, 336
  - rubra 43, 335
- Rhatany pomade 273
- Rhinitis 188
- Rhœadine 420
- Rhubarb, garden as a poison 362
  - , new source of 201
- Rhus toxicodendron 116, 402
- Ricin 30
- Riconal-sulphate of soda 322
- Rodents, action of atropine on 187
  - belladonna on 187
  - bornylamin on 248
  - camphor on 248
  - chloral on 248
  - hyoscyamus on 187
  - manihot 187
- Rosa canina 409
- Rosengarten, Geo. D.—demise of 140
- Rose oil, adulteration of 296
- Rubber stamps, ink for 47
- Rumex hymenocephalus 262, 365
  - obtusifolia 367
- Rusby, Dr. H. H 10, 39, 77, 113, 212, 258, 334, 361
- Rust preventitive 200
  - spots, to remove 96

S.

- Sabiana serrulata 198
- Saccharin 50, 340, 363
  - as an antiseptic 341
  - —methyl 363
  - *vs.* sugar 302
- Safety bottles 273
- Saffron, adulteration of 97, 246, 348
- "St. John's wort" 235
- Salicylic acid—see Acid.
  - vinegar 419
- Salipyrin 230, 231
- Salol 16
  - , toxic action of 355
- Salt hypodermic injection of 61
- Saltpetre deposits in Chili 179
- "Salu herb" 116
- Salvia—"chia" 262, 405
- Sambucus nigra 182
- Sample vendors 399

Page.
"Samudra-pullam" 368
Santonin—castor-oil mixture 276
Sapindus edulis, action of on turkeys 187
Saponin 156, 368
Saw-palmetto 198
Scalp diseases 27, 31, 163
"Schia-Liao" 28
Schrenck, Prof. Jos.—demise of 107
Scopolia carniolica 3, 18, 25, 43
    Hardnickiana 26
    Hladnikiana 4, 18, 19, 26
    Japonica 4, 18, 25
    viridefolia 26
Scropularia nodosa 342
Sea-sickness 182
Securinega obovata 369
Sediment and precipitate 14
Seltzer water as an anæsthetic 354
Senna pods, fluid extract of 243
Separating funnel, simple 120
Sepidium piscidium 368
Serpent poison—see Poisoning.
Shake mixtures 343, 344
Sheep, action of hyoscyamus on 187
    hypericum on 187
    manihot on 187
Shortages 205
Show bottle in colors, Fink's 121
    , use of cupric sulphate in 158
    windows 408
Sida carpinifolia 406
Silver nitrate, solubility of 389
Simulo 299
Skin, etherial preparations for 320
Sleeping rooms, plants 423
Smelling salts 160, 374
Smut, "black" 14
    , stinking 14
    of oats 14
    wheat 14
Snails, action of digitalis on 187
"Snake-bite weed" 235
Snuff, catarrh—Æchlimann's 49
    , menthol 29, 52
Soap, resin—as an emulsifying agent 125
    root 405
Soaps, liquid 138
    , medicated 322
Soda, new process for 27
    water made with compressed gas 243
    , hot 58, 371
    fountains as fire extinguishers 47
Sodium borate, solubility of 389
    chloride, injections of as stimulant 61
    creosotinate 127
    ethylate 362
    hyposulphite, solubility of 389
    nitrate, new source of 179
    para-creosotinate 127
    phospho-glycerite 17
    riconol-sulphate 320
    and uranium tartrate 413
Soja 113
    hispida 113
    Javanica 113
Solanum dulcamara 405
    somniferum alternum 26
Solution, philosophy of 303
    without agitation 14, 407
Solutions, freezing of colloidal 418
Somnal 20, 29, 49
"Sorge herb" 116
Sorcerers, medical 87, 88
Sparrows, action of coffee on 187
Sparteine 299
Specific gravity 16
    , method of taking 389
    volume 16

Page.
Specks, to remove floating 344
Spermin 112, 123, 172, 227, 274, 354, 379, 388, 424
    and Dr. Pohl 307, 424
        Journal of Am. Med. Assn 405
Spilanthes Acmella 369
Spirits, distilled—tax on 38
Spots, kerosene oil—to remove 156
    , rust—to remove 96
Squibb, Dr, Edward R.—and the Pharmacopœia 152, 182
Stains, oil—to remove 156
    , rust—to remove 96
Standardization of remedies 54, 66, 67, 82, 102, 136, 150, 156, 199, 241, 301, 314, 359, 393, 421
    in weights and measures 149
    , a victory for 141
Starch, glycerite of 158
Stegnosperma halinifolia 405
Sterility and hybridity 216
    luxuriance 216
    obesity 216
Still, an improved 148
Stinking perspiration 362
Stomach—see Digestion.
    , action of bitter tonics on 115
        remedies on 115, 340
    , to estimate acids of 61
Stomatitis 48
Stramonium 35
Strophanthus 116, 299
    Frazeri 347
    hispidus 306, 347
Strychnine 30, 154, 182, 340
    ferrocyanide 267
    , Fleming's solution 302
    , to distinguish from exalgin 30
    , effect of on stomach 340
Students of pharmacy, requirements of 70
Substitution 82, 346, 376, 400
    , legal decision regarding 424
Sugar, action of on frogs 187
    , beet—industry 250
    cane 216
        , from seeds 113
    , diuretic effects of 299
    , "fruit" 123
    industry 250, 341
    of milk, solubility of 389
    vs. saccharin 302
    in urine, rapid test for 318
    , volume of in water in preparation of syrups 407
Sulfaminol, } 190, 262
Sulphaminol, }
Sulphites, anhydro- or meta- 348
Sulphonal 52, 93, 341
    , dangers of 59
    , incompatibles of 187
    , therapeutic value of 90
Sulpho-thio-oxydiphenylamin 262
Sulphur precipitated—see Lac sulphur.
    , adulteration of 246
    as a germicide 396
Sulphurous acid ointment 421
Summer beverages 206
Superstitions, medical 87, 89
Suppositories, glycerin 30, 344
    , new machine for making 39
    , naphthalin 410
Swine, action of antimony on 187
    lachnanthes tinctora on 187
    manihot on 187
    polygonum fagopyrum on 187
Symphytum officinale 300
Synthetic compounds—a surfeit of 19
Syphilis 279
    , communication of 330
    plaster 305
Syphoning, practical 9
Syringes, hypodermic—how to clean 268

Page.
Syrup benzoin compound 345
  , new fruit 201
  opuntia 219
  , purgative 377
  yerba santa aromatic 301, 402
Syzygium jambolanum 44, 379, 403

T.

Tables, reference—for microscopists 418
Tablets, coffee 201
  , new automatic machine for 140
"Tabordillo" 405
Tænicides, new 156, 402
Tan, to remove 318
Tannin 14
  , solubility of 27
Tar as a deodorant of iodoform 139
  , birch—economic value of 276
Tariff law, new—effect of on drug trade 327
Tea, effect of on digestion 340
  "weed" 406
Tephrosia virginiana 406, 408
Tereben 364
"Thabyai-pyu" 403
Thallin, physiological action of 17, 340
Thea sinensis 189
Thebaine, action of on dogs 187
Theine 323
Thelypodium integrifolium 262
Theobromine 13, 37, 299
  -soda-salicylate ("Diuretin") 37, 262
Theophylline 116
Therapeutic notes for pharmacists 330, 362
  oddities 145, 183
  superstitions 145
Therapeutics, modern—does pharmacy satisfy? 199
Thermometer, a costly 356
"They all resigned" 233
Thymol, powdered 28
  as a tænicide 402
Thiol 20
Thioxydiphenylamin 190
Thompson, F. A. 331, 364
Tilletia tritici 14
  fœtans 14
Tincture camphorated opium, quick manufacture of 15
Tinker, Franklin H.—demise of 186
Tobacco, action of on animals 187
  substitutes 356
Tonics, bitter—action of on stomach 115
Tonsillitis, gargle for 305
Tooth-ache drops 354, 388
  -extraction, painless 158
Topics, current 178
"Toroto" 405
Tox-albumins 228
Trade-mark claims, new 116
    decision 244
    question, progress of 66
    regulations, new 392
  methods, new departure in 104
  Press Association 250
"Tree of life" 183
Trees and buildings 225
Trewia nudiflora 116
Tricholoma imbricatum 43
  transmutans 43
  vaccinum 43
Tritopine 420
Trinitrin 242
Triumfetta Braziliensis 258
  calcyculata 258
  cordifolia 258
  diversiloba 258
  heretophylla 258
  Havanensis 258
  Lappula 258
Triumfetta Martiana 258
  obscura 258
  ovata 258
  rhomboidea 258
  Salzmanni 258
  semitriloba 44, 258
  tricuspis 258
  typica 258
Troches, new medicines for making 420
"Trouble" 372
Tsuga Douglassii 370
  Lindleyana 370
Tubercular diarrhœa 217
Tuberculosis and Robt. Koch 378, 345, 411
Tubes, glass—to cut 14
  , water jacketed flexible 96
Tully powder 84
Turnera aphrodisiaca 309 405
  diffusa 309
Turkeys, action of sapindus edulis on 187
Turpentine, what is it? 47
"Turquette" 376
Tutty powder 84
"Twill root" 342
"Twin leaf" 342
Type-writer ink 170

U.

Ulcers, varicose 188
Unguents, see Ointments.
  , diachyli 52
Ural 49, 87
Uranium acetate 413
  nitrate 413
  , physiological action of 51
  poisoning 413
  and sodium tartrate 413
Urechites 412
  poisoning 402
  suberosa 412
Urethral injections 402
Uric acid estimation 29, 61
Urine, test for sugar in 38, 318
Ustilago maidis 14
Uterine hæmorrhage 95

V.

"Valva root" 116
Vanillin 409, 410
Vapors, mercury—reagent for 16
Variola, treatment of pustules 188
Vaselin pomades 58, 273
  emulsification of 29
Verbascum thapsus 342
"Verdigris" 6
Vincetoxin 409
Violet and perfumes 45
Vituperation *vs.* science 33
Volume, specific 16
  of sugar in water in the preparation of syrups 407
Vomiting, incoercible 346

W.

Walsura piscidia 368
Warts, to remove 402
Wash bottles, value for 391
Water avens 300
  of bitter almond 380
  , Buffalo lithia 119
  , distilled—test for 231
  hemlock 43
  , nitrous nitrogen in drinking 348
  , sterilization of 420
Waters, to make medicated 417
Wax, African insect 272
  , grafting 116
Webber, Prof. J. Le Roy 73

Page.
Weighing *vs.* measuring of fluids ... 46
  mercury, how to ... 343
Weights and measures ... 149
WENDER, DR. NEUMANN ... 403
Whale oil, a—for medicinal use ... 354
Wheat, growth of in Mexico ... 216
  , smut of ... 14
WHELPLEY, Dr. H. M. ... 75, 110, 178, 210, 256, 330, 362, 401
Whooping-cough—see Pertussis.
Wickstræmia canescens ... 190
Window display ... 121, 158
Wine, iodinated ... 124
Wines, bouquet of ... 276
  and digestion ... 346
  , to distinguish red from colored ... 32
Wintergreen, oil of as a source of salicylic acid ... 343

Page.
Wood-fibre as food ... 181
Woodward, Wm. R.—demise of ... 276

Y.

"Yerba mansa" ... 10
  del venado" ... 405
  santa, aromatic syrup of ... 301

Z.

Zinc borate ... 388
  hydrate ... 88
  and mercury, double cyanide of ... 88
  sulphate in prescriptions ... 83
    solubility of ... 389

DRUGGISTS' BULLETIN

A MONTHLY EXPONENT OF

PHARMACEUTICAL PROGRESS AND NEWS.

Vol. IV. No. 1. DETROIT, MICH., JAN., 1890. $1.00 a year. Single copies, 10 cents.

THE DRUGGISTS' BULLETIN.
ISSUED MONTHLY.

EDITOR:
B. W. PALMER, A. M., M. D.

COLLABORATORS:
PRACTICAL PHARMACY.
J. LE ROY WEBBER, PH. G., H. F. MEIER, LEON C. FINK.

CHEMISTRY.
F. A. THOMPSON, PH. C., J. B. NAGELVOORT, PH. G.

BOTANY AND MATERIA MEDICA.
H. H. RUSBY, M. D., G. SUTTIE.

PHARMACEUTICAL APPARATUS AND INVENTIONS.
J. B. RUSSELL, PH. G.

GEO. S. DAVIS, Publisher,
P. O. Box 470, DETROIT, MICH.

Articles designed for insertion in THE BULLETIN, subscriptions, advertisements, and all communications should be addressed to the publisher.

Editorial.

A CODE OF ETHICS FOR PHARMACISTS.

Have pharmacists a code of ethics which they conform to in the transaction of their business? To this query most pharmacists would, we think, rightly respond in the negative. There are many reasons why pharmacists, at the present time when so much progress has been made, and is further promised in the more general elevation of this art from a trade to a profession, should adopt and live up to a code of ethics. We suggest this as a topic for discussion at the next meeting of the American Pharmaceutical Association, and would be glad to have for publication an expression of opinion from the readers of the BULLETIN as to the propriety of adopting a code of ethics.

Though some may contend that the ethical transaction of business is not conducive to commercial success, we think this an erroneus and demoralizing view of the subject. The current opinion of the present day is toward scientific pharmacy, and a more complete recognition of its professional aspects and possibilities.

While we do not presume to present for consideration a code which would be practically applicable, we approve of the following provisions of the code of ethics of the New York State Pharmaceutical Association, which might be extended by others so as to cover all the relations of pharmacists between themselves and to physicians and the public, to the advantage of all concerned:

1. We accept the U. S. Pharmacopœia as our standard and guide for all official preparations, and recognize a variance from its rules only in exceptional cases where sufficient authority has proven some other process more reliable to obtain the same end. We would, however, recognize the authority to dispense medicines where they are ordered to be compounded in accordance with foreign Pharmacopœias.
2. We distinctly repudiate the practice of allowing physicians a percentage in any form, on their prescriptions or patronage, as being derogatory to both professions.
3. We will endeavor, as far as possible, to refrain from compromising the professional reputation of any physician, and expect in return the same courtesy from him.
4. Believing that the professional training of the pharmacist does not include those branches which enable the physician to diagnose and treat diseases, we should in all practical cases decline to give medical advice, and refer the applicant to an educated physician.
5. The growing demands of the age require that those who follow the profession of pharmacy should be educated to a higher standard, therefore, we consider it our duty, individually and collectively, to encourage the advancement of knowledge in our profession generally, and more particularly by stimulating our assistants in every way possible to become proficient in their business.

HYDRASTININE.

This substance is an oxidation product of hydrastine, the white alkaloid of golden seal. It has recently been prepared at the laboratory of Parke, Davis & Co., in order to afford opportunities for physiological investigation in European laboratories, prominent among which is the University of Berlin.

It can be obtained from hydrastine by the action of various oxidizing agents, and though the original methods were attended with considerable waste, improvements in this respect have been achieved, especially as regards the manufacture of the hydrochlorate.

The process which appears to be the most satisfactory, as reported by Messrs. Parke, Davis & Co., is as follows:

Twenty-five grammes of hydrastine are placed in a flask, 125 c. c. of water are added, and then 100 c. c. of nitric acid (sp. gr. 1.375). The mixture is now warmed in a water bath, so that it acquires a temperature between 50 and 60 degrees C. If any evolution of gas takes place, the heat should be withdrawn for a short time. The hydrastine dissolves in about fifteen minutes, and the warming of the solution is continued until the addition of ammonia produces only a faint turbidity, but no precipitate. This point is usually reached after warming for two hours. The liquid is now neutralized with sodium carbonate, filtered, if necessary, and the clear solution, after cooling, washed with ether. The aqueous solution, after separation of the ether, furnishes on the addition of a concentrated solution of potassa, (about 30 per cent.) crystals of hydrastinine.

By proceeding carefully, 90 per cent. of the theoretical quantity can be obtained. The reaction taking place in its production is shown by the following equation:

Hydrastine. Hydrastinine. Opianic Acid.

$$C_{21}H_{21}NO_6+O=C_{11}H_{11}NO_2 + C_{10}H_{10}O_5.$$

The alkaloid, or base, being sparingly soluble, and, moreover, rather prone to decomposition when in solution, preference will naturally be given to the hydrochlorate, as this salt possesses the desirable quality of being stable, besides being readily soluble in aqueous liquids.

To prepare the hydrochlorate, the base is dissolved in chloroform, from which solution the salt is precipitated by leading into the liquid dry hydrochloric acid gas. An excess of the acid causes a resolution of the salt in the chloroform from which it readily crystallizes. Recent advices from the highest European authorities indicate that hydrastinine and its salts are of immeasurable service in controlling uterine hæmorrhages, far surpassing ergot in efficiency, certainty of action, and safety.

A full report of its therapeutical application will shortly appear in the *Therapeutic Gazette and Medical Age*.

OWNERS OF PATENT MEDICINES LIABLE FOR INJURY DONE THEREBY TO THE PUBLIC.

A decision which may lead manufacturers of patent medicines to furnish some guarantee as to the composition, character, and quality of their preparations, it is currently reported, was recently made in a Georgia court.

This decision maintains that the proprietors of such preparations are liable in damages for injury done to any person who takes the medicine according to the directions and is injured thereby.

The sentiments of the court are as follows:

"These patent medicines are secret, or are intended by the proprietors to be secret, as to their contents. They expect to derive a profit from such secrecy. They are, therefore, liable for all injuries sustained by any one who takes their medicine in such quantities as may be prescribed by them.

"There is no way for a person who uses the medicine to ascertain what its contents are ordinarily, and in this case the contents were only ascertained after an analysis made by a chemist, which would be very inconvenient and expensive to the public.

"Nor would it be the duty of a person using the medicine to ascertain what poisonous drugs it may contain. He has a right to rely upon the statement of the proprietor, printed and published to the world; and if thus relying he takes the medicine and is injured on account of some concealed drug of which he is unaware, the proprietor is not free from fault, and is liable for the injury thereby sustained."

This is a decision in the direction of scientific pharmacy that should be followed by courts of other States.

If such a law was operative, it would do much to limit the harm done by the dangerous, secret nostrums, which now do so much to demoralize the professions of medicine and pharmacy by their direct sale to the public for any imaginable ill that human flesh fancies it is heir to.

THE EPIDEMIC OF INFLUENZA.

The extent and severity of the prevailing and still spreading influenza, must have added materially to the prescription trade of the pharmacist, for the grave cases have taxed the the ingenuity of the most skillful physicians who have made little impression on it by medicinal treatment and have naturally resorted to many remedies to relieve the symptoms.

The milder cases owing to the fact that the daily press has kept the public informed of the symptoms of the affection and its treatment in many cases doubtless resorted to self-medication and the result has been an increase in the patronage of pharmacies and much enquiry both from medical men and the public for remedies for the relief of this depressing affection. We are informed that some remedies, which have been very much in demand have become very scarce and have doubled in price. This is rather a novel experience for pharmacists.

It may not therefore be uninteresting to sketch in a brief way the history of this disease and the present epidemic and to mention the remedies that are most in demand for its treatment.

There is nothing at all new about the influenza itself, but an epidemic which overspreads Europe like a great wave, setting Paris and Berlin topsy-turvy at once, and almost producing a suspension of business, is something a little more surprising than an ordinary epidemic of colds. It has been some little time, indeed, since the like phenomenon occurred; the last severe epidemic of *influenza Europœa* is recorded as having taken place in 1849. But in the eighteenth century there was no less than ten of these epidemics. The Italians, who gave its English name to the influenza (the French call it *la grippe*), finding no reason in Nature or in conditions of life for this disease, ascribed it to the influence (*influenza*) of the stars.

The present epidemic, like almost all other epidemics, come from the East. We heard of it first in Ekaterinburg, and no doubt it would be traceable thence to Astrakhan or Samarcand. From Ekaterinburg it went to Moscow, St. Petersburg and Berlin, and thenee to Paris. The rapidity with which it spreads is something marvelous. Even in the days before railroads it has been known to overspread the whole of Europe in six weeks and then travel to America. Fortunately, the present visitation is classed as "benign" by the physicians. "Benign" is one of the doctors' odd words, and in this case it means merely mild, just as "laudable pus" means something comparatively and not positively praiseworthy.

According to the *New York Medical Record*, the disease is undoubtedly due to some micro-organism which floats in the air, and which infects the human system, but is generally killed in so doing, for the influenza is but slightly if at all contagious.

We observe that some feeling of alarm prevails lest this epidemic be a precursor to cholera, as was the case in 1831 and 1847.

There have been, however, plenty of cholera epidemics without a preceding influenza, and a great many influenza epidemics without any associate cholera. The micro-organisms of the two diseases are as essentially different as are the diseases themselves. The cholera germ lives in water and soil, the influenza germ in the air. The relation between the two diseases has been, we believe, purely accidental.

The remedies most largely used in the treatment of influenza have been quinine, antipyrin, antifebrin, atropine and belladonna, salol, phenacetine, Russian baths, and the general symptomatic and tonic treatment which is adjuvant to the action of remedies of known specific action and nerve sedatives or stimulants as may be indicated. Prof. Roberts Bartholow in the *Philadelphia Medical News*, commends the inhalation of sulphurous acid gas in connection with the use of antiperiodics.

A writer in the *Medical Age* says of chloral hydrate in the treatment of influenza: "Chloral hydrate is a remedy that is almost invaluable, since when administered in solution in minimum doses it acts in no small degree as a sedative expectorant and diuretic; and at the same time proves a sedative to the cerebral centres, and to the inflamed mucosa of the entire digestive tract; further, it appears to antagonize the morbific to which the malady presumably owes its inception, and serves in no small degree as a conservator of vital force."

The same journal is authority for the statement that the new antipyretics are prescribed, more perhaps as the result of fashion than for any real aid afforded, and that both antipyrin and antifebrin are contraindicated—or at least should be used with extreme caution—since they alike tend to induce further prostration, to increase the number of white corpuscles of the blood at the expense of the red, and reduce febrile excitement only as the sequel of powerful reflex action exerted through the spinal cord upon the pulmonary and cardiac centres: thus they are ever dangerous in proportion as they manifest analgesic properties.

As to the complications of influenza which are responsible for the fatal termination of many cases such as pneumonia, it would be useless to discuss these here. It will be sufficient to state that the grave complications of influenza may be invited by lack of care in treating the primary affection, and exposure to cold or other de-vitalizing influences before complete recovery from the milder symptoms is fully effected.

A SUBSTITUTE FOR BELLADONNA AND A SOURCE OF HYOSCYAMINE.

Recent investigations of *Scopolia carniolica*, Jacquin, by Professor W. R. Dunston, A. E. Chaston, F. Ransom, Sir Dyce Duckworth, M.D., E. M. Holmes, F.L.S., Thomas Greenish, and Lauder Brunton, have led to a communication of the results obtained, in a number of papers read before the Pharmaceutical Society of Great Britain, and published as a contribution from the Research Laboratory of the Pharmaceutical Society in the *Pharmaceutical Journal and Transactions*, Dec. 14th, 1889.

In these articles the history of the drug, its chemical constituents, pharmacy, therapeutic action, natural history, botany, and histological character, are presented. The deductions drawn from the results obtained indicate that we have in this plant a new and important source of hyoscyamine, and a possible substitute for belladonna.

In his introduction, Professor Dunston, in commenting on these investigations, states:

Rather more than a year ago, Mr. Ransom brought under my notice a rhizome which had recently appeared in the drug market, being offered as a substitute for the root of *Atropa belladonna*, under the name of *Belladonna scopola*. It was imported from Germany, and was stated to grow wild in the Carpathian Mountains, and in other parts of Austro-Hungary. The juice of the plant was supposed to possess mydriatic properties. From further inquiries it appeared that an abundant supply of the plant could be obtained should any demand arise for it.

Two species of Scopolia have already been made the subject of chemical investigation, viz., *Scopolia Japonica* and *Scopolia Hladnikiana; Scopolia Japonica* has been used to some extent in medicine. The new rhizome was not, however, likely to be derived from either of these plants, since the first is indigenous to Japan, and does not grow in Europe, while *Scopolia Hladnikiana* is rare, and practically unknown outside the botanic garden.

Having regard to the probability that the plant might contain one or more of the mydriatic alkaloids, and to the commercial scarceness of their principal source, *Atropa belladonna*, it seemed desirable to make a chemical examination of the rhizome, and if constituents were discovered likely to possess valuable medicinal properties, to submit preparations made from the plant to therapeutical examination. Chemical investigation soon showed that we have in this plant a new and important source of hyoscyamine.

Dr. Lauder Brunton, undertook to try the therapeutic effects of the drug, but unfortunately was compelled by pressure of other work to abandon the experiments before they were completed. As far as these experiments were carried, they seem to show that Galenical preparations made from this rhizome possess properties similar to, if not identical with, those of belladonna. In order that the therapeutic action of this species of Scopolia might be well established, Sir Dyce Duckworth has made a further series of trials of Galenical preparations prepared by Mr. Ransom, and standardized to correspond with those of belladonna. The results of these experiments are recorded by Sir Dyce Duckworth, in his paper.

The pharmacy of the plant has been very fully worked out by Mr. Ransom, who describes in his paper the methods of preparing standard Galenical preparations.

Since it is important that the plant from which the rhizome is derived should be identified and described, Mr. Holmes, has investigated the subject, and has been able to refer the rhizome to *Scopolia carniolica*, a plant which grows freely in several parts of Europe, notably in Austro-Hungary. A full account of the plant is given by Mr. Holmes, in his paper.

The remarkable resemblance between *S. carniolica* and *Atropa belladonna*, which the chemical investigation has disclosed, suggested a comparison of the histological characters of the rhizome of the one plant with the root of the other. This comparison has been made by Mr. Greenish.

We regret that the reports of the investigators are too voluminous to publish in their entirety in the BULLETIN, but publish an abstract of them in this issue.

HERBARIA AND THEIR ADVANTAGES TO PHARMACISTS.

Mr. G. C. Bruce, M. A., in a lecture on this subject published in the Australian *Chemist and Druggist*, Dec. 21st, says:

The knowledge of the medicinal properties of plants was evidently considered a highly valuable attainment many ages before the plants themselves were made the objects of a distinct science. The balm of Gilead bore a high place in the estimation of the Jews because of its healing power. Considerable *kudos* was evidently obtained by a knowledge of plant properties in the Heroic age. Homer tells of Patroclus, who stanched the bleeding wound of Eurypylus with the juice of a little root, the virtues of which he had learned from Achilles, and Achilles from Chiron; and we have it said of the wife of one of the heroes whom Nestor boasts of having slain in his youth, "Who knew the virtues of each earth-born herb."

The writings of Hippocrates, who figures on our diplomas; of Aristotle, whose comprehensive genius left scarcely anything unexplored; of his disciple Theophrastus, the first botanical author whose works have incontestably descended to these time; of Dioscorides, the famous physician; and of Pliny, the warrior and historian, were all commented upon.

The march of science was regulated, after the glory of Greece and Rome had departed, and before the Saxon hierarchy was founded, by the Caliphs of Bagdad and the Moors, the latter in their Universities of Cordova and Granada keeping alive the vital spark of learning, and shielding through tempestuous days the doctrine of Aristotle, Galen, and Dioscorides.

Here too appear the Arabian philosophers to whom we owe the senna, cassia fistula, manna, tamarinds, and rhubarb, and in the Escurial may still be seen a MS. which was written by a protégé of Saladin.

In Britain one of the earliest writers after the Conquest was Henry, Archdeacon of Huntingdon, who lived in the reign of Stephen; but it was the invention of printing which quickened the pulse of botanical science by bringing within the grasp of a greater number the knowledge which previously had been the possession of the favored few.

Eulogising Conrad Gesner, the greatest naturalist the world had seen since the days of Aristotle, and the man credited with the glory of being the first to divide plants into classes, genera, and species, the author went on to tell of Clusius, to whom we owe the introduction of the cherry-laurel and horse chestnut; he detailed the ever-varying fortunes of William Turner, "the Father of British Botany," who, after leaving Cambridge and suffering exile, returned to his native land and filled the respective offices of Prebend of York, Canon of Windsor, Dean of Wells, and Member of Parliament; and passed in rapid review the labors of Lyte (1578); Lobel (1570) —the name is perpetuated in "Lobelia;" Cæsalpinius, who first distinctly mentions the true difference of sexes in plants; the brothers Bautrin, Pona and Zanoni, Johnson and Parkinson, Rhende, and the contemporary authors of "The Golden Age," Morrison, "the immortal Ray," Rivinus, Tournefort, and some others.

The first practical "Flora of Great Britian" appeared in the "Synopsis" of Ray, published 1690. The lecturer added a more lengthy notice of the labors of Linnaëus, and a lucid exposition of his system, and of the binomial nomenclature he introduced, with some appreciative references to the labors of Gleditsch, Crantz, Gaertner, Gmelin, Willdenow, Greseck, Adamson, and a mere special tribute of praise to Jussieu and De Candolle.

In sketching the history of herbaria, Mr. Bruce first remarked on the uncertainty connected with the origin of the word, and its early application as a book about plants. The oldest existing collection he knew of was that of Jean Girault, of Lyons, 1558. He had himself discovered a collection in the Oxford Museum, which he was able to ascribe to a Capuchin friar (1606). In passing, Mr. Bruce offered some criticisms on the botany of the B. P., and showed that, ably as it was done, there were slips here and there. Under *Mentha piperita*, Smith is given as the author, whereas it was Hudson who first gave the name to the proper plant. It is true that Linnaëus used the name *M. piperita*, but it was an error, as the plant he thus called was only a form of his own "aquatica;" the name thus fell to the ground, and was available for use by Hudson. There is an earlier authority than Wiggers for *Taraxacum officinale;* and again, under *Mentha arvensis*, Linnaëus, not De Candolle, is the authority; its variety *piperascens* should be quoted as of Malins, and its variety *glabrata* as of Holmes.

The lecturer emphasized the necessity of herbaria for systematic botanists. He believed it to be almost impossible to name with any degree of critical accuracy from descriptions alone the majority of species in our lists. Among the practical suggestions to collectors it was recommended that fugitive colors should be preserved by dipping the petals in a mixture of three parts of sulphurous acid, and one of methylated spirit; they are bleached at first, but gradually regain their original tints in a permanent form. Bentham's "Flora," Hooker's "Student's Flora," and Babington's "Flora," are all good aids; Bentham's is the easiest to work from, but Hooker and Babington should always be consulted as checks.

The advantage of the study of botany to the pharmacist, especially now that the subject has been excised from the medical curriculum, was insisted upon, though the fear was expressed that the fierce and frantic zeal to add a new hypnotic or some new organic compound with wonderful temperature-reducing power to our groaning shelves, will prevent chemists from giving much attention to this the more humble and less showy handmaid of therapeutics.

We may add to Mr. Bruce's interesting *resumé* some notes on herbaria in New York City, which were contributed to the January, 1890, number of the *Druggists' Circular*, by Dr. H. H. Rusby, in answer to a student's inquiry.

"In addition to a fair share of private herbaria, some of them large and important, New York possesses three collections which are accessible to the public. If I include the small collection of the College of Pharmacy, which forms the nucleus, I trust, of a future large and important collection, particularly in the line of medical botany, then I should say four instead of three. Of these, one is purely local, namely, the herbarium of the Torrey Botanical Club, representing the flora within a hundred miles radius of New York City, and outlined in the 'Preliminary Catalogue of the Anthophyta and Pteridophyta growing spontaneously within one hundred miles of New York City,' published by the Club at the price of $1.00, and interpaged for the addition of collectors' notes. This herbarium, while of limited scope, is a most important one for students, as it includes not only native, but introduced species, furnishing the basis for an important study of the subject of geographical distribution in relation to the area presented. It is deposited at Columbia College, and is freely accessible.

A second collection, which, though very small at the present time is general in its scope, is the herbarium of the American Museum of Natural History. Up to this time the energies of this department have been directed to the completion of the world renowned Jessup collection of North American woods. At the same time, a beginning has been made toward the formation of a herbarium proper, and it is to be hoped that the Museum will be enabled to do more for this herbarium in the future than it has done in the past.

"The third is the herbarium of Columbia College, one of the most important if not the most important upon the Continent. It is based upon the Meissner collection, to which was later added the collection of Dr. Torrey and his colleagues, and the herbarium was for a long time informally known as the Torrey herbarium. During, and immediately subsequent to, the life of Dr. Torrey, it received vast additions by contribution and exchange from various foreign institutions, societies, and private individuals. Unfortunately, these collections were not properly appreciated by those in charge, and they were promiscuously and carelessly stored as fast as received, and without records. A few years since Dr. N. L. Britton, a graduate of the School of Mines, came into charge of the collection, and immediately set about exhuming and mounting the material which had accumulated, verifying determinations, and arranging the collection. This duty has required several years of patient application, but as a result the collection is now in a very fair condition. At the same time that these steps were being taken toward a preservation and proper arrangement of material already at hand, Dr. Britton re-opened old correspondence and solicited new, so that collections have again begun to pour into this American treasury of botany. The room which was extensively fitted up only a year or two since for the accommodation of the collection, is already crowded to an unreasonable degree, and plans have been accepted by the college authorities for increasing the capacity five-fold. Although the collection is actually free to the public, under proper restrictions, through the courtesy of the college authorities, yet it is at the present time somewhat difficult for the numerous visitors to find room to pursue their studies. This defect will be remedied, probably, before another college year shall open, and then New York may be proud of the possession of the finest work-room for botanists which exists in America."

In addition to this we should mention in this connection the herbarium made under the charge of Dr. H. H. Rusby himself which was gathered by him for Messrs. Parke, Davis & Co., and which is constantly growing and likely to be one of the most complete collections of botanical specimens of plants from which medicinal drugs are derived that has ever been collected.

Pharmacists should avail themselves of the opportunity that is offered by herbaria to familiarize themselves with the character of medicinal plants, the principles of which they are daily dispensing.

IS COPPER PRESENT TO AN INJURIOUS EXTENT IN SOLID EXTRACTS?

This query was very satisfactorily answered by Mr. D. P. Shuler, whose paper was published in 1887. The writer concluded as the result of a very thorough enamination of commercial extracts, that the quantity of copper present, amounting to only 1 part in from 50,000 to 100,000 parts of extract, was not harmful.

The following which we notice in the *Chemist ana Druggist*, for November 20, 1889, would seem to corroborate Mr. Shuler's views:

COPPER COLORED VEGETABLES.

"Verdigris, being no longer a poison, according to the new chemical gospel, an order just issued by the Prefect of Police permits the use of copper utensils in preparing preserved vegetables with a view to having them green. This step has been taken in pursuance of the joint advice of both the Council of Hygiene of France, and that of the Seine Department."

New Preparations of Drugs.—The following new preparations of drugs, and changes in list, are announced by Messrs. Parke, Davis & Co. They supply the fluid extract cocillana, instead of the tincture as formerly. Fluid extracts of the following drugs have recently been added to their list, viz.: Eschscholtzia, *Jatrophia macrorhiza*, *Echinacea augustifolia*, broom corn, and an eligible combination of strophanthus and iron.

Original Articles.

PRACTICAL PHARMACY.

THE BRIGHTER SIDE—PROFESSIONAL PHARMACY.*

BY HENRY P. HYNSON, PH. G., BALTIMORE, MD.

Mr. President and Gentlemen: I ask the question, "Whither are we drifting?" feeling assured that the answers coming back from you will be all encouragement and promise. Particularly will this be the case if you will look beyond the small world of individuality for an answer—beyond even the world of your nearer neighbors and competitors. Take a stand over and above the narrowing standard of pecuniary success, and look honestly and justly for truth from a standpoint of professional attainment.

I give the question to you for your answer, but, before I hear it, let me plead my cause. Bear with me while I refer to days long ago, seemingly, yet days that are still, perhaps, within the memory of some present.

Not quite fifty years ago the professional life of pharmacy began. I contend that as a profession it had no existence until the establishment of teaching schools of pharmacy; certainly this the case so far as we here are concerned. I read from the history of the institution, which so many of us proudly revere as our Pharmaceutical mother, that it was in the year 1841 that the then handful of ambitious, vocation-loving, brave, self-sacrificing men, chartered "The Maryland College of Pharmacy," and although I am uninformed as to the history of the Philadelphia and New York Colleges, I believe ours is nearly as old as they. It was so late then as 1841 that that we begun life, a period within the life of men yet with us. Think of this—think of it always! —Does not the fact bring encouragement and encouraging excuses? Institutions and beings are not very different in their life's history. Are we not ever prone to find excuses for youthful follies? Do we not look beyond to the more perfect life to follow? Do we ever expect much from the inexperienced, the untried, or untaught?

Take the standing to-day of professsional pharmacy —I mean pharmacy pure and simple,—with its many established truths, its well nigh perfected systems, its beautiful results, and compare it with the same period in the age of any other profession, and what do we find—is there anything to be ashamed of then? I think, my brethren, if we constantly recur to this comparison we will be very proud. Did you ever think of this, or have you overlooked the fact and done our profession an injustice thereby? You are all more or less familiar with the early history of many of the liberal professions—the histories of the professions and sciences generally. Some of their early text books are rare and interesting curiosities indeed, and the records of their life in the beginning hold much to astonish, plenty to amaze, and a great deal to horrify. Is it not unreasonable to expect *us* to accomplish in less than fifty years what hundreds have scarcely brought *them*? Yes, they have lent assistance and we are grateful, but have we not made bountiful returns? In the vigor of our young life we have done so. Has not pharmacy met every demand that has been made upon her? Has she not kept abreast of the professions and sciences with which she is a co-laborer? Does she lag to-day! Is there an end to be attained that she has not the ability to secure? Is there a doubt in her world that she cannot dissipate, either in fixing the truth or pronouncing the error? I think we too often underestimate her powers—her accomplishments. We are apt to measure her in every regard by the way she contributes to our pocket or comfort. Before answering my question, you must consider the growth of pharmaceutical teaching and its tendencies; these are most important considerations. I would not, if I could, tire you with dry statistics. You all know that there is scarcely a city of any importance in our land but what has its college of pharmacy. Many of the State universities have included schools of pharmacy. We know that most of these are thriving, their classes yearly becoming larger, and standards higher. Does not the knowledge grow with its growth, and the profession with its years? These colleges are claiming better and better material every year. Can this be denied? Our public schools offer it, and our higher standards demand it. It is simply a question of supply and demand. And the result is a greater number of competent and ambitious pharmacists throughout the land, striving for higher standards and better methods. I know you are just dying to meet this statement and refute it, but I say to you before you begin, *take your eye off that dollar!* You will never be able to see the truth while contemplating that eagle or the profile of the Washington beauty. I say we have a better class of druggists. I see the improvement even in my own experience, and *you* see it. It is "old fogyism" to talk about the "good old times" (that never were). You hear of the "good old times" in medicine, chemistry, even theology—they are all gone. "The good old days in pharmacy," too—days with the mortar and pestle, powdering drugs; days making putty; days grinding paint; days bruising and cutting roots and herbs for the elegant (?) teas; days upon mercurial ointment and blue mass, with window-washing and floor-scrubbing sandwiched in. All *thoroughly* scientific, *beautifully* scientific! But, brothers, who wants to go back to those "good old days?" Specifically now, point out the activity of the apothecary of old, whereby the apothecary of to-day is, in contradistinction, made to appear "commercial rather than scientific." Have we not more science in one-tenth of our operations than our fathers had in all their rounds of manipulations? Are we not all, in practice, made to feel the need of all the theoretical and scientific knowledge we can possibly command?

---

* Read at the late meeting of the Maryland State Pharmaceutical Association, Nov. 20th, 1889.

If pharmacy is not scientific, why is this a fact! I ask—honestly ask—is there any one here who practices his profession conscientiously, no matter what his attainments may be, who feels that he has an overplus of scientific knowledge? If this be so, then why isn't our vocation scientific? But who is the pharmacist of to-day? Can this be applied only to the retailer of drugs or to the dispenser of prescriptions? I think it has a broader application. I argue that pharmacy includes the learned and scientific collector of drugs, and the educated, intelligent manufacturer of drugs as well; just as medicine includes the surgeon, the pathologist, the oculist, etc. Do not our colleges pay especial attention to these branches, and are we to ostracise a man from pharmaceutical brotherhood because he chooses to direct his efforts in a special direction? I have no issue with the legitimate manufacturer—and the fabricator of nostrums of any kind, cannot be noticed here. I claim that the efforts of the better class of manufacturers have done as much, mayhap more, to elevate pharmacy than any other class of our fraternity. And who of us would not be a manufacturer, who of us is not a manufacturer? Our differences are only in degree not in kind. We should honor these as they are a credit, in most cases, to our profession. Pharmacy, then, comprehends to-day, a broader ground and more inviting field of practice, and is claiming and retaining each year a better class of students, the opinions of others to the contrary notwithstanding, and can it not be proven that we retain within our profession a larger percentage of our graduates than does any other profession? The statement was made lately by the "*London Spectator*" that only one-third of those who enter professional life on the Continent and in America succeed to a competency. One third dropping out entirely, and the other third, though holding to their profession, are not supported by its practice. Can we not make a better showing than this for pharmacy, which very probably was not dignified with a place among those from which these statistics were drawn?

I read last summer a paper written by one whom we all honor, and I believe I should say, love. It was able, of course, and used many plain helpful truths, but it surprised and grieved me with a decidedly broad assertion. In speaking of pharmaceutical students, the writer said that, "*without exception*, it is the best element of our young pharmacists who withdraw from the profession." Now this has just a slight effect upon the pride of some of us who remain within the pale. I thought at once to try and secure facts which would substantiate this statement, or, if possible, disprove it. The want of time has prevented me getting as complete figures as I hoped to have, and I have met with other difficulties; but I bethought me that the prize men were certainly the better element of our classes, and, while I do not consider the Maryland Course of Pharmacy the whole pharmaceutical world by any means, I think she is fairly representative. Prizes have been awarded by her during the last seventeen years, and I find that out of the 17 first-prize men I could only discover the present occupation of 14:—7 in retail business, 3 in other branches of pharmacy, and 4 physicians. Out of the 17 second-prize men, I found 11; of these, 8 have remained pharmacists, and 3 become M. D.'s. Of the 17 third-prize men, I find 9, all of whom are dispensing pharmacists excepting one, and he is connected with a pharmaceutical manufacturing establishment. So I find, of 34 prize men whose vocation I have been able to ascertain, 27, or nearly 80 per cent., are pharmacists, and very nearly 70 per cent. are apothecaries. Bearing in mind that the seven who have deserted are all physicians, and that some of these undertook pharmaceutical studies *simply* as a step to medicine, I think the showing eminently encouraging as compared to the losses other professions suffer. And are not these prize men, who have outstripped all the rest, the "better element?" If not, has not your Board and Faculty been unjust to this better element?

I think the author of that paper, who is present, will be glad to acknowledge his error and withdraw his conclusions, which must have been arrived at under the influence of the "dollar" men, or from a standpoint of forgetfulness. He is in a position to know, and I ask him if he doesn't think the average pharmaceutical student compares very favorably with the medical or dental student in intellect and culture? Running over the names of the graduates of our college, I think that those I know, or know of, are the larger number, and a great majority are still in the profession practicing. I also find that of those I know to have dropped out, that most of them had low standing in their classes. These are facts, and, I may add, very encouraging facts. Again, you must consider the influence of pharmacy and its effect upon public opinion. Do you not know that legislation is, in the main, an expression of public opinion? Pharmacy has made its importance felt. It has taught the people that a certain and sufficient knowledge of its teachings by its practitioners is necessary for their protection, and in nearly every State in our Union laws regulating the practice of pharmacy have been put upon the statutes. The recognition of the law is much to our credit, and then the tendencies of pharmaceutical teachings are toward a higher standard of purity, not only of drugs and medicines, but of foods as well. It tends strongly toward more comprehensive hygienic laws, and assists largely in the perfecting of sanitary means and agents. It unselfishly strives at the prevention of human ills, and gives freely of the store of knowledge. In this it makes its claim to a liberal profession. In a thoroughly scientific manner it has looked toward and assisted in the perpetuation of the source of valuable agents. It has found substitutes for exhausted remedies. It has sent the learned explorer into the wilds of savage lands in search of knowledge and truth. It has stimulated botanical research and study more than any other influence, I believe. Its well grown and rapidly increasing literature must win for it commendation from every quarter. The establishment, added number, and improved and improving quality of its journals — just consider their extent! All these are matters of encouragement and promise. Have any of them retrograded?

Pharmacy is winning a higher and better recognition from physicians. Many of the liveliest and less conservative schools of medicine include pharmaceutical lectures among their courses. Medicine has recognized pharmacy in the revision and enlargement of our National Pharmacopœia—has delegated largely to our profession the management of this standard—not, I am sure, through indifference, but because she sees the fitness of things. Medicine pays pharmacy a tribute—and it is a great one—in the associate editing of our Dispensatories. Medical societies fraternize with our socities. The great American Medical Association has appointed a committee to confer with one from the American Pharmaceutical Association upon matters of mutual interest. Was this always so? Does it not point upward and onward?

Pharmacy, *per se*, makes no apology—needs to make none. To the clear, unbiased eye, the way is open to a better and higher progress—to a broader and more satisfactory field. Discriminate between the thing itself and the practices of its creatures. Do not desert the flag because it has enemies and traducers in its own camp. I find no where so many to traduce and belittle our cause as I do in our own ranks. It is deplorable, yet it is true; but consolation comes with the knowledge that much the same trouble is found in other professions, trades, and associations. It is from selfish self-loss; we build a high place for ourselves by beating down anything immediately around us. But who are those we find dissatisfied with the flag and its leadings? Is it the brave, the active, the devoted, the true man in the front ranks?

What is it that leads our men away from us who are the deserters? I do not refer to those who march straight on past our leaders to a higher army beyond, to which their ambition or bent leads them—I mean those who have no higher professional ambition. I answer my question by reiterating it. What do they leave for? These same troubles are just as troublesome—these same annoyances are just as annoying—these same difficulties are just as difficult in other professions and the practicing of the sciences as in our own. Medicine has its quack and 25c a visit follower. Law has its petty-fogger and criminal's friend. Dentistry has its ostracised member who works on the catchpenny plan. The assayist, competent and active, is driven to peddling candy because of close competition. Theology even is in bad repute because it doesn't pay; it lacks brains and force because the remuneration is so small. The members of the profession say this of themselves, and does it all detract from these? If not, then why should it lower pharmacy? No one ever thinks of estimating the scope, the influence, the results of any of the other professions by the amount of remuneration they offer. In the associations of these, and in their discussions, reference is not made to the financial success of its members—real professional success is the end sought for. Much, too much, of the time of our meetings, and a great deal of the space in our journals, is taken up with how to make pharmacy pay. This is a matter, I think, in any walk of life, best left to the individual. He has his own idea of just how much right he will sacrifice for gain, or of just how much gain he will sacrifice for right—and our individual talents in this direction are just as varied as they are in any other. I do not believe we will ever be able to regulate such matters. It has never been done in any line except by the establishment of trusts, or monopolies, which are directly at variance with liberal teachings. The contemplation of such things all tend toward communism, which would sap every ambition. Pharmacy arose from a purely commercial basis such a short time ago, that there is no wonder it is found with many of the narrowing and retarding traditions surrounding its birth still clinging to it. It has dropped many of these, and sometimes feeling the loss, it has taken on other incumbrances with which, in its youth and inexperience, it was tempted. Be patient—let it grow and strengthen; let it win for itself a strong, safe foothood among the profession, and it will stand bodly out as clean and pure as any of its sisters. Let us not load down our profession with our poor financial success. If we have beenfound in bad company, let us try to break off therefrom, either suddenly or gradually, as suits us best. Let us look about and see how success has been attained in other professions. Especially, let us consider *just what kind* of success we wish to attain. "Verily they shall have *their* reward," and "As ye sow, so shall ye reap." Veritable truths these, which we must remember. The quality of our success shall be exactly consistent with the means we have employed to secure it. I have asked you to consider the comparative youthfulness of pharmacy. I have tried to show you that pharmacy has progressed, and is progressing. I have made an effort to show that pharmacy suffers no more losses, nor has more abuses and annoyances, than other professions. In all, I have tried to bring encouraging words, and win champions and friends for our strangely-traduced but ever-rising profession.

PRACTICAL SIPHONING.

BY A. L. JOHNSON.

One important process with manufacturing chemists in the purification of fluid products, is the natural one of settling, the clear liquid being finally separated from heavier fæculent matter by decantation. In large operations the decantation is generally effected by means of the siphon, and those having this work in charge become from constant practice especially skillful and adroit in using the instrument.

The utility of skillful siphoning is particularly exemplified in handling bulk lots of organic solutions, such as fluid extracts. Precipitation from one cause or another is of frequent occurrence in preparations of this class, and as it is at times impracticable or undesirable to filter such products, the whole question of their supply often depends upon their perfect separation from these precipitated impurities. The facility which is acquired in these departments is, therefore a necessary as well as desirable accomplishment.

Various forms and modifications of the siphon have been advocated from time to time and different methods have been suggested for its use upon nauseating and caustic liquids, but the skillful operator finds a simple instrument best suited to all purposes. He requires merely a length of rubber hose, one end of which shall be fitted with a short glass tube projecting about half an inch beyond the rubber. The only other provision is that the hose shall be about one-third longer than theoretical considerations make necessary.

For purpose of illustration, let us require one of these expert siphonists to draw from a barrel container 20 pounds of a fluid extract—say, for example, cinchona calisaya—and we will carefully note the operation.

In the first place, he finds upon consulting the records that there are but 25 pounds of the extract remaining in this particular barrel, and he has learned by experience that a light and troublesome precipitate is likely to have formed in this preparation and settled to the bottom of the container. He might therefore, expect some difficulty in drawing 20 pounds of clear fluid.

Supposing the barrel to be at an elevation of two feet, our operator will probably choose for this occasion a siphon 7 or 8 feet long and ½ to ¾ inch inside diameter. He now places the glass tube end of the siphon in his mouth, and gradually lowers the other end through the opening in the barrel head, while at the same time he blows quite forcibly through the tubing. In this way he can tell, by the resistance which is offered, and the bubbling which follows, when the surface of the liquid has been reached. That point having been determined, he lowers the siphon a very little more, and, being sure that the position is maintained, carefully raises a loop of the tubing—long enough to reach below the liquid in the barrel—to the height of his head, and pressing it together with the thumb and finger of his left hand, so as to allow the passage of air, and at the same time resist the flow of liquid, applies a constant suction till the siphon is filled.

This object is accomplished when the liquid has risen in the tubing to the point of compression, as may readily be detected by the touch. Our operator now quickly lowers his left hand and grasping the other end of the siphon with his right, forms on the outside the barrel a "U," the loop of which, is lower than the liquid within. He may now depress the right arm of the tube and the liquid will slowly rise within the glass where it may be readily examined and directed at once into the desired container.

The flow being thus well started, our operator grasps the siphon near its entrance into the barrel, and in this way detects at once, by the touch, the first air bubbles passing into the siphon, and so may know when it is at the surface of the liquid. He then quickly lowers the tube a little and so maintains the flow uninterrupted. If the expected precipitate is nearly reached, he examines the product through the glass tubing at each lowering of the siphon. Thus, repeating these tactics, he may siphon to the very surface of the precipitated impurities and still draw a clear product.

Proceeding in this manner our practical artist-workman will have readily accomplished his task and drawn the full amount of the fluid extract in the necessary state of purity. He has proceeded quickly, as well, and has not spilled a drop or soiled his fingers in the operation. Working thus, entirely in the dark and with this simple instrument, he has done what the tyro could scarcely have accomplished at all though completely supplied with glass equipments and subject to other most favorable conditions.

BOTANY AND MATERIA MEDICA.

YERBA MANSA.

(*Houttuynia Californica* (Nutt), B. & H.)

BY HENRY H. RUSBY, M. D.

It is nearly nine years ago that the writer, then engaged in his first extended botanical exploration, arrived, tired and thirsty, upon the banks of a small stream flowing into the Rio Grande at Albuquerque, and applied for shelter at a little house owned and inhabited by a family of Mexicans. Unable to understand a word of the native language, he was fortunate in finding in the presiding señora one gifted with a certain amount of knowledge of the English language. His object and business stated, a pleasant, though broken, conversation ensued on the subject of botany and the virtues of "*yerbas*." The lady of the house conducted him to a favorite corner of the garden, where she declared she would point out the two most useful medicinal plants in the world. They proved to be some species of Labiatæ, which is now forgotten, and a small patch of the plant which forms the subject of the present sketch. On inquiring as to the precise virtues of the latter, the hostess, forgetting in her eagerness her slight knowledge of English and the necessities of her guest, with glistening eyes replied: "*Para el estómago, Señor!*" (For the stomach, Sir.) Often afterwards, during the two seasons spent in traveling through the Southwest, this plant was encountered, and whenever testimony concerning it was received from the natives or settlers, it confirmed the statement of my kind hostess, that it was an excellent stomachic; although at various times sundry other important properties were assigned to it, among them that of "a blood-purifier," or alterative—general as well as anti-syphilitic—anti-blennorrhagic, anti-rheumatic, and a stimulating application to open wounds and swellings.

Although the plant has long been listed among the fluid extracts of several manufacturing houses, and although it bears frequent mention in the various private and Government reports upon general and economic botany, yet I do not remember to have ever seen an illustrated or extended account of it in any pharmaceutical journal. I have therefore presented the readers of the DRUGGISTS' BULLETIN with the accompanying illustration and account.

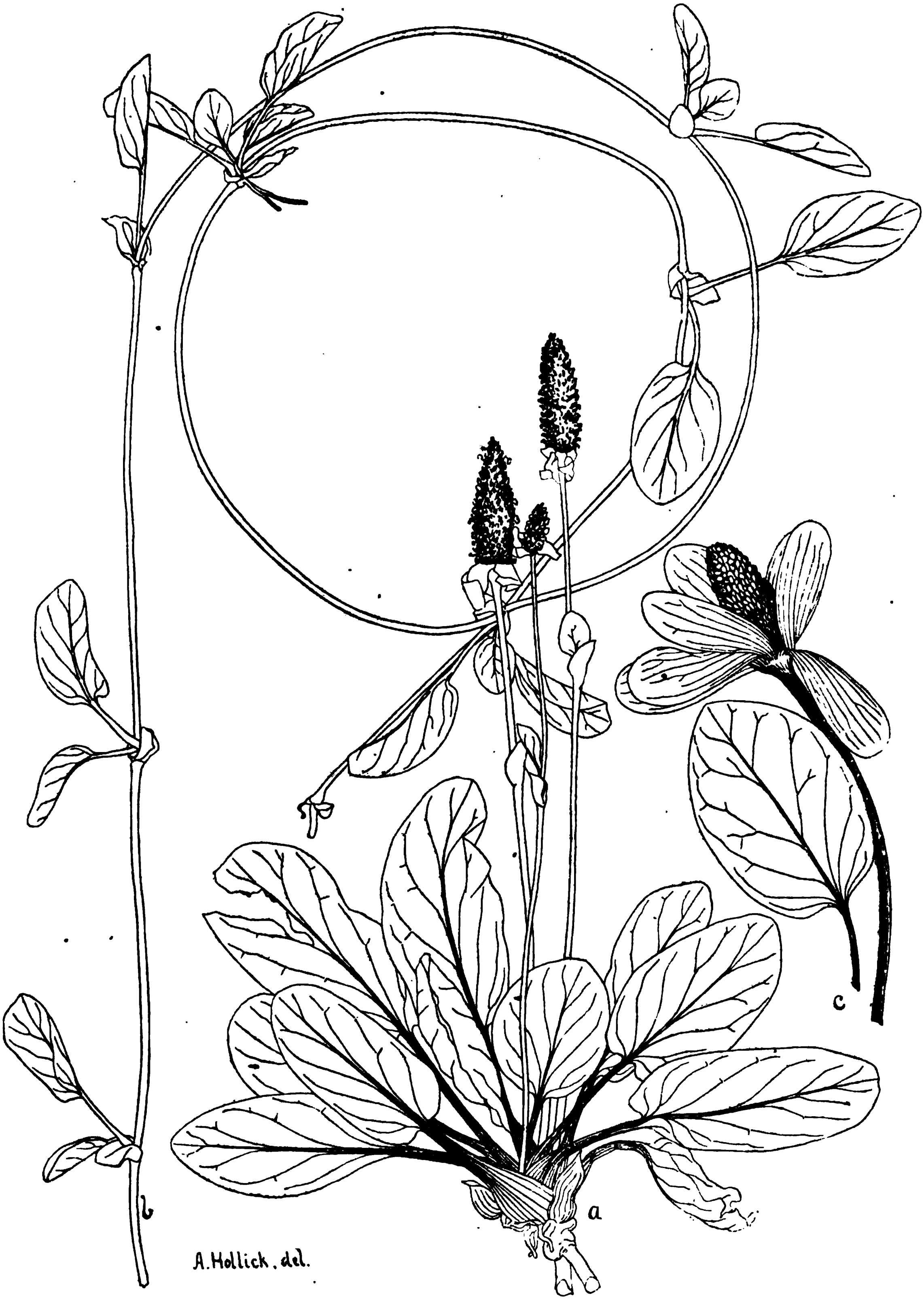
Unfortunately its botanical history is better known than its medicinal. Although one is able to secure considerable popular information regarding its medicinal application, yet such information is of the most indefinite, and perhaps unreliable, character. In the Botany of California, Brewer and Watson, II, 78, we read that it is "common near the southern coast, and much used for medicinal purposes by the Indians and Mexicans." Prof. J. T. Rothrock, in his botanical report of the United States Geographical Surveys West of the 100th Meridian, p. 49, says, "'*Yerba de Mansa.*'—This plant, if we may at all credit popular report, is well worthy of further investigation as a remedial agent. Unfortunately I have mislaid my notes, and can say now nothing more definite than that it is regarded as a diuretic, and is usually used in baths for rheumatic affections. It is rather unsafe to venture an opinion on its mere appearance, but, if I were to do so, I should say it would probably drop into that somewhat vague class of remedies known to physicians as alteratives." Similar reports have been contributed by all scientific travelers who have visited our South Western regions, and all have united in the opinion that this is a promising plant for investigation. Theoretical considerations would lead us to the conclusion that this plant will be found, should it ever receive a thorough investigation, to possess important stimulant, diuretic and antiseptic properties. We should anticipate, in short, that it would be found in a general way similar to the root of Methysticum or Kava.

As regards its botanical name, *Yerba Mansa* has a most curious history. It was first described by Nuttall in *Ann. Tayl. Nat. Hist. Soc.*, I, 136, as *Anemia Californica.* But the editor of the *Annals*, Sir W. J. Hooker, in a foot note says: "There being already an Anemia among the ferns, perhaps Anemopsis might with propriety be adopted by Mr. Nuttall." Hooker & Arnott, in *Bot. Beech.*, 390, take up the latter name, but attributed it to Nuttall, although it is really by Mr. Hooker, through his editorial suggestion. Recognizing this error, Bentham & Hooker, *Gen. Plant.* III, 128, reject the authorship of Nuttall, but attribute the name to Hooker & Arnott, as having been the first to cite it, in accordance with their well known rule that no generic name is to be accepted if unaccompanied by a description; and this notwithstanding the fact that a full description appears upon the same page with the name Anemopsis, on the gronnd that the description is by one party and the name by another. The usage of the authors of the *Genera Plantarum* being at variance from that of other botanists, does not permit their form of citation to be adopted. So that De Candolle, Brewer & Watson, and other authors attribute the name Anemopsis to its real author, Sir W. J. Hooker. Inasmuch, however,as the plant is now considered as not generically distinct from Houttuynia of Thunberg, the entire question of priority in the name Anemopsis disappears, and we get the specific name "Californica" credited to Nuttall in parenthesis, and the complete name to Bentham & Hooker as first applying it to the plant in question. It therefore becomes *Houttuynia Californica* (Nutt.) B.&.H.

Nuttall's specimens, from which the plant was first described, came from Santa Barbara and San Diego, California. It was next found at Zacatecas, Mexico, subsequently by Thurber at Chihuahua, and since then by many collectors in California, Arizona and New Mexico; almost always in stations similar to that in which Nuttall found it. Occasionally, however, it grows in dryer ground, when it is then shorter, with smaller and thicker leaves, as in the specimen figured of the writer's collecting. Its appearance upon the ground is peculiar, being not unlike that of a patch of common plantain, although the leaves are smaller and more nearly prostrate. It propagates not only by seed, but by long, luxuriant runners, one of which is represented in our illustration, *Fig. b.* The roots are long and stout, and run for some little distance before branching. They are soft and rather spongy in texture, of a reddish-brown color, and hot, pungent taste. The head of flowers is of a dull brown color, and is subtended by a handsome corolla-like circle of bracts, giving to the whole inflorescene a striking resemblance to that of some species of Anemone. Altogether the plant presents an appearance decidedly handsome, and its inflorescence remaining bright for some time, it would appear to be very desirable for ornamental purposes. In its whole appearance it is strikingly different from its relatives in the natural order Piperaceæ. Those plants are commonly leafy and luxuriant, but provided with flowers in elongated, inconspicuous, and not at all handsome, spikes. The first tribe of the family, however, is an exception to the rule. Besides Houttuynia, it comprises the genus *Lactoris*, growing only at Juan Fernandez, or Robinson Crusoe's Island, and the *Saururus*, represented by our common Lizard's-tail, which possesses, as is well known, an exceedingly handsome white inflorescence. This first tribe is distinguished from the second by the possession of an ovary composed of three or four carpels, each of which is two to eight ovuled. Within it, Lactoris is distinguished by the possession of a three-parted perianth, while both Saururus and Houttuynia are achlamydeous. The latter is distinguished from Saururus by the possession of an involucre to the inflorescence. Of Houttuynia, there are only two, or possibly three, species, the other being found in eastern Asia, both upon the mainland and the adjacent Islands. The original attempt to establish a separate genus for our species, was based upon its possession of "fruit coalescent with spadix." The original description by Nuttall was very full and accurate, and we here present it entire.

Anemia Californica. *Root* perennial, creeping, reddish, possessing the aromatic smell and spicy taste of the ACORUS and SAURURUS. *Leaves* clustered round the crown of the root, oblong-oval, cordate at the base and rounded at the extremity, smooth and somewhat glaucous beneath, the petioles and scapes pubescent, the *leaves* 3 to 5 inches long and 1½ to 2 broad, with the base of the petiole evidently dilated and sheathing. From the axils of the leaves come forth either stolons or one-flowered scapes; on the latter, about the center, arises a single, amplexicaul, roundish, cordate *leaf*, beyond which the stem or scape sends out a solitary peduncle; and from the same sheathing leaf also issues commonly one or two-leaves of an imperfect or restrained stolon. The *involucrum* consists of from 5 to 7 or 8, though most commonly 6, white, roundish-oval, petaloid leaves, that finally fade, after long persistence, into a brownish red color. The *spadix* is a cylindric cone, covered with flowers, so as, with its involucrum, completely to resemble an *Anemone*; these flowers, as well as the succeeding fruit, are all ingrafted together on the spadix; still, each one, consisting of an area of from 6 to 8 stamens and 3 to 4 styles, is subtended by a small, round, coloured bract. *Filaments* very short, and united with the the linear-oblong, 2-celled *anthers*. *Styles* long, thickish, subulate, at length diverging. *Capsules* or *utriculi*, of a spongy texture when dry, ingrafted together at the sides, of one roundish cell containing about 6 seeds and without valves, or opening merely by the divergence of the bases of the 3 styles. *Seeds* roundish, subcylindric, punctuated and somewhat rough, containing a farinaceous perisperm.

HAB. Springy bogs and open marshes by streams around Sta. Barbara and Sta. Diego in Upper California. This present plant is very nearly related to the *Houttuynia cordata* of Thunberg, differing principally in the coalescence of the fruit with the spadix. Compared with a specimen in the Herbarium of the Academy of Natural Sciences in Philadelphia, the aspect of the flower and leaf, as well as the mode of growth, is also exceedingly similar.



Explanation of cut.—Houttuynia Californica (Nutt), B. & H., reduced about ¼. *a*, Specimen collected by the writer at Albuquerque, N. M.; *b*, A stolon from same; *c*, Inflorescence from a specimen collected by Bingham at Santa Barbara, California.

MONTHLY REVIEW.

In the *Popular Science News* for September, p. 135, and October, p. 151, Mr. F. L. Sargent contributes two readable and instructive papers on "Coco, Cacao and Coca," suggested, as stated, by an article by Balfour in the *Annals of Botany*, II, 2. Prof. Balfour calls attention to the careless manner in which these names are interchanged, and to the common errors "into which some of our best dictionaries have fallen." Passing over our feeling of surprise that Prof. Balfour should not yet have fully accepted the fact that "our best dictionaries" are at best only records of thoroughly popularized errors, and in no sense authorities which the accurate can follow, we proceed to the interesting matter that follows. We read that the name Coco (correctly written thus) is said to have been given by the Portuguese settlers in India to the coco-nut because of the fancied resemblance of its "eye-end" to the face of a monkey while uttering the sound "Co-co." And this reminds us that all through Central South America where the *Cocos nucifera* is unknown, all kinds of large shell fruits, like the case of the Brazil nut and the Monkey-pot, are called "Cocos."[*]

The savage tribes decorate their temples with pictures in feathers of these fruits, and to them also the name "Cocos" is applied. While it is probable that this term was introduced by the Spaniards and applied by them to these native fruits because of their similarity to the true Cocos, yet it is not impossible that the name is native.

A strikingly similar word is "Coto," applied to the large red howling monkey because of the large spherical cartilage in his throat which gives him the appearance of having a goitre or "Coto." The same term is applied to the cartilage itself.

Much interesting information follows concerning the origin and growth of this plant, and we come to the second subject, the Cacao. The statement that "all the other members of the chocolate family bear little more than a strictly botanical interest" will scarcely pass among pharmacists, who know that the Kola-nut is to vast tribes of Africans as important, almost, as tobacco or coffee are to us, or certainly as the Maté to the Paraguayan, or the Coca to the Bolivian. Mr. Sargent's reference to the occurrence of this tree in a wild state in the Amazonian forests, recalls vividly a personal experience of the writer when he was once lost for an entire day in a vast forest whose smaller trees were mostly of this species. Quite a number of species of Theobroma, we may mention, occur wild in Brazil, and one which we encountered produces white seeds. While upon this subject we will put in a plea for the correct pronunciation of this word which is very nearly *ca-cow.*

In treating of the next subject, the Coca, Mr. Sargent adopts a number of popular errors which we have elsewhere pointed out. He says "As in Cacao the important constituent is the alkaloid *Theobromine*, so in Coca, were it not for the presence of the alkaloid *Cocaine*, the plant would never have have been cultivated."

We have repeatedly stated our conclusions, from a long study of this plant, to the effect that the Indian does not value the coca leaf chiefly for its cocaine, but for other volatile constituents; for he habitually rejects leaves which are not sufficiently fresh or well preserved, although their percentage of cocaine may be very slightly or not at all reduced. We might also correct the statement that the leaves are packed "as soon as dried." They ordinarily, if not invariably, lie for two or three days in the coca-house in order to go through the process of "sweating" before it is considered safe to pack them.

These papers of Mr. Sargent's are calculated to do much toward correcting the popular confusion regarding these three plants, and it is to be hoped that they will be widely reported and carefully remembered; but in view of the peculiar carelessness of our people regarding inaccuracies of this kind, it is hardly to be expected that such will be the case.

The above mentioned discussion regarding coca reminds us that coco-nut oil (*vide Pharmaceutical Record*, p. 386), is being found as an adulterant in castor oil from India, and is detected by its congealing at a point below 60° F.

Four pages of the December number of the *Torrey Club Bulletin*, are devoted to the ninth number of Dr. Britton's enumeration of the plants collected by the reviewer in South America, in the years 1885 and 1886. Sixty-eight species, all in the natural order Leguminosæ, are enumerated, among them being several of medicinal interest. The genus Cassia is most largely represented, there beine 13 species, one of them our common *C. chamæchrista*. *Copaifera Langsdorfii*, Desv., the species yielding the best variety of Para Copaiba, was collected at the Falls of the Madeira, not far from the geographical centre of South America. Six species of Mimosa and four of Acacia were collected, among the latter being *A. Farnesiana* (L.), Willd. *Galactia montana*, *Bauhinia Rusbyi*, and *Calliandra Boliviana* are new species described.

In the same number is printed the paper by Prof. Schrenk on the "Floating-tissue of *Nesæa verticillata* (L.), H. B. K.," to which we referred in our last as having been read at the Torrey Club meeting on December 10th. This is one of the best of the many important papers on vegetable histology which have been presented by its author, and is most handsomely illustrated by two plates.

In the *Bull. Ag. Exp. Station of Indiana*, No. 28, Sept., 1889, Mr. J. C. Arthur contributes a valuable paper on "Smut of Wheat and Oats" (*Tilletia tritici* and *T. fœtens*, the "Stinking Smut," and *Ustilago segetus*, the "Black Smut"), from which it will be seen that the latter destructive species is quite closely related to our corn smut, which is coming to be highly esteemed as a drug of the Ergot type.

---

[*] On the far-away Pacific coast of Chili grows the *Cocos microcarpa*, the largest of all the palms, but bearing coco-nuts—perfect in shape and structure—not larger than a common hickory nut.

A similar paper appeared in the August *Bulletin of the Ag. Exp. Station* (No. 6), at Champaign, Ill., from the pen of Prof. Burrill, on "A Bacterial Disease of Corn." From the experiments it would seem that this bacterium varies greatly in its power at different times and from different localities to affect both vegetable and animal species. The experiments are so loosely described that we cannot, unfortunately, draw any conclusions concerning the causes of such variation; but it appears certain that this disease is capable of becoming very destructive, and we trust that we may at some future time hear something more in detail from the Professor on so important and interesting a subject.

A thoroughly practical resumé of the uses of gallic acid in medicine, with a special reference to its comparison with tannic acid, is presented by Prof. Z. Pitcher, Michigan College of Medicine and Surgery, in the *Medical Age*, p. 539. Tannic acid is more valuable in the treatment of hæmorrhage from the bowels, or for exerting there a powerfully astringent influence in other conditions. For this very reason it is apt, in many less severe forms of disease, to act excessively in this direction, and to produce evils greater than those which it is intended to relieve. By the same property it may greatly check the stomach secretions and retard or impair stomach digestion. Gallic acid, on the contrary, is more prompt and efficacious in relieving hæmorrhages from points other than the bowels.

Nut-Cracking Department.

Butter of Antimony.

F. S.—Authorities generally agree in assigning the name "Butter of Antimony," to a substance having the consistency of butter, for example: The U. S. Dispensatory states on page 890 that "pure terchloride of antimony, called by the earlier chemists, *Butter of Antimony*, is a white, readily fusible solid, of the consistence of butter, deliquescent, powerfully caustic, and volatilizable under an obscure red heat."

In the face of this, however, the term butter of antimony is by usage commonly applied to solution chloride of antimony, for which it appears as a synonym in the price lists of some of our leading manufacturing chemists, who almost invariably supply solution chloride of antimony, when butter of antimony is ordered.

Drops and Minims.

"L. J."—You have simply failed to take into consideration, the fact that the convenient drop is not, according to the widespread impression, an equivalent for the minim.

While 60 drops of water may make approximately one fluidrachm, there are many circumstances which cause variation in the size of "drops."

For example: thick viscous liquids like mucilage and syrups, form large drops by clinging to the lip of the container until the weight of the drop overcomes the power of adhesion, while heavy mobile liquids like chloroform adhere slightly to the glass surface and produce only small drops.

It is apparent that the shape of the vessel and extent of surface from which the liquid is dropped must have an influence in determining the size of the drop.

A table carefully prepared by Mr. Stephen L. Talbot, showed in a comparison of 124 liquids, a variation of from forty-four to two hundred and fifty drops in each fluidrachm, with an average of 116.

While this latter should not be used indiscriminately as a standard, it will serve to show that the drop is by no means an equivalent for the minim.

Cutting Glass Tubes.

"G."—Small, moderately thick glass tubing may be neatly broken, by scratching it across with a sharp three-cornered file, then grasping it with both hands, one on each side of and very near the scratch, and applying slight outward pressure, which will generally produce a clean fracture; by holding the sharp edges for a moment in an alcohol, or Bunsen-burner flame, the corners may be rounded so that they will pass through a cork without cutting it or making a ragged edge.

Solution Without Agitation.

"S. T."—Solution can be effected with little or no agitation by suspending the substance in a gauze bag, just beneath the surface of the liquid.

As fast as the solid is taken up, the solution descends and its place is supplied by fresh portions of the solvent, and solution is facilitated by the circulation thus created.

Sediment and Precipitate.

"G. R. M."—"Sediment" and "Precipitate" are not synonymous terms. *Sediment* is solid matter, separated by simple action of gravity from the liquid in which it has been suspended, while a *Precipitate* is solid matter thrown out of solution by heat, light, or chemical action.

A convenient method for removing samples of heavy sediment or precipitates, for examination, without disturbing the supernatant liquid, is to take a glass tube of suitable dimensions, close one orifice with your finger, insert the tube carefully into the liquid until the lower extremity reaches the precipitate. Then remove the finger and at the same time push the tube quickly to the bottom of the container, immediately replace your finger and remove the tube containing the precipitate.

Face Powders.

S. P.—In response to your request for face powder recipe, we present eight typical formulas, taken from an excellent article on this subject in *The New Idea*, by Mr. H. W. Snow.

These formulas are based upon careful examination of samples representing many leading commercial brands of foreign and domestic production. The results impress one with the fact that the range of ingredients employed is limited, and the varying success with which each brand has met, seems to have been chiefly dependent upon devices employed for manipulating the material and advertising the product:

1.

Powdered orris root	1 part.
" zinc oxide	2 parts.
" French chalk	2 "

2.

Powdered prec. chalk	2 parts.
" French chalk	3 "

3.

Bismuth oxychloride	1 part.
Precipitated chalk	3 parts.
French chalk	5 "

4.

Bismuth subcarbonate	1 part.
Zinc oxide	3 parts.
French chalk	4 "
Precip. chalk	4 "
Corn starch	5 "

5.

Bismuth subnit	1 part.
French chalk	25 parts.
Corn starch	35 "
Terra alba	40 "

6.

Bismuth subcarb	1 part.
Zinc oxide	3 "
Magnesium carbonate	3 "
Talc (fine sifted)	5 "

7.

Zinc oxide	1 part.
French chalk	3 parts.

8,

Talc (fine sifted)	4 parts.
Zinc oxide	1 part.
Starch	1 "

Formulas No. 1, 2 and 7 are said to represent the cheaper powders, like "Swansdown," etc., although it will be seen that they do not differ very much from some of the better brands.

Formulas 3, 4 and 5 are intended to represent the better grades of face powders, such as Pozzoni's and Saunders'. Formula No. 8 is modeled after Penaud's and Rimmel's.

Rice powders are stated to be composed largely of wheat starch, corn starch, or potato starch, although some of the French brands contain oxide of zinc and other inorganic constituents. Pistachio powders are said to be composed of fine talc nicely perfumed and colored light lavender.

Any of the above powders may be tinted pink with carmine, or "brunette" with fine quality of levigated burned umber, or burned sienna, and can be perfumed to suit.

Cochineal Color.

J. T.—A good formula can be found on page 70 of the National Formulary. Here is another:

℞	Carmine No. 40	1 ounce.
	Aq. ammonia, 10 per cent	1 ounce.
	Alcohol	4 ounces.
	Water	12 ounces.

Rub carmine with aqua ammonia and add the water gradually, strain and add the alcohol.

Washing Precipitates.

"L. G. T."—Decantation is by far the best method for washing soluble contaminations from insoluble precipitates, as may be seen from the theory illustrated in the following example: Suppose that we have a mixture of 100 grains of ferric hydrate and 100 grains of ammonium chloride in 100 ounces of water; when the insoluble ferric hydrate has subsided, we can pour off 90 ounces of the supernatant liquid containing 90 grains of the soluble chloride. The second washing will in a similar manner remove 9 grains more; the third washing will remove nine-tenths of the remaining grain; and so on.

Gargle.

"F-"—An excellent gargle can be prepared from the following formula:

Potass. chlorate	1 ounce.
Solution iron chloride	2 drachms.
Distilled water	1 pint.

Paregoric, Short Method of Manufacture.

W.—The seven days maceration required by the official formula, can be avoided and the paregoric completed at once, by substituting for the powdered opium, ten times its weight of U. S. P. standard tincture of opium.

Specific Volume.

"S."—Specific volume may be defined as the relative bulks of equal weights of different bodies, and it is thus directly opposed to specific gravity.

In practical pharmacy it is the volume of a given weight of a liquid compared with the volume of an equal weight of water at 15° C. (59° F.).

The specific volume of a liquid is at once obtained by dividing the volume of a given weight of the liquid by the volume of an equal weight of water, or, by dividing the specific gravity of water (1.000) by the specific gravity of the liquid.

With this in mind you can always calculate the volume of a given weight of liquid by multiplying the volume of an equal weight of water by the specific volume of the liquid.

It is, of course, not to be expected that the pharmacist will carry the specific gravity and specific volume of all substances in memory, but he will find it easy and advantageous to memorize many of those more commonly used; for example: benzine as compared with water has a sp. gr. .67 or ⅔, and a sp. vol. of about 1.5 or 1½; ether a sp. gr. .75 or ¾, and a sp. vol. 1.33 or 1⅓; glycerin a sp. gr. 1.25 or 1¼, and a sp. vol. .80 or ⅘; chloroform a sp. gr. 1.49 or about 1½, and a sp. vol .67 or about ⅔, etc.

Sifting Powders.

"U."—The U. S. P. establishes a relationship between the descriptive names of powdered drugs and their degree of fineness by designating the number of meshes to the linear inch in the sieve through which each should pass, as follows:

A very fine powder	No. 80	sieve.
A fine powder	" 60	"
A moderately fine powder	" 50	"
A moderately coarse powder	" 40	"
A coarse powder	" 20	"

The importance of thoroughly mixing a powder after sifting should not be overlooked, in order that each part of finished powder may have a uniform composition—for the starchy portions of a drug will be powdered more quickly than the ligneous portions, and will usually pass through the sieve first.

Derivation of the Word, Antimony.

"W. L. N."—Some claim that "antimony" is derived from *αντι*, "against," and *μονοσ*, "alone," because antimony (Lat. *stibium* from the Greek *στιμμι*) is never found uncombined in nature.

Antimony, according to tradition, was used in France some centuries ago to poison monks and is called antimoine to this day, or monk-poison.

Moine or monk is derived from the same source.

To Loosen Tight Glass-Stoppers.

"Ralph."—To loosen tight glass-stoppers, remove carefully all paraffin, wax, plaster-Paris, etc. from around the stopper. Then heat the neck of the bottle by friction with a string, or by application of a flame (don't use the latter if the bottle contains inflammable substance.) The heating should be done as quickly as possible to avoid warming the stopper. Under the action of heat the neck of the bottle will expand, while the stopper, still cool, retains its former size.

Correspondence.

PARIS LETTER.

At a recent meeting of the Société de Thérapeutique, M. Berlioz stated that sulforicinic acid possessed the property of dissolving ten per cent. of its weight of naphthol, adding that it likewise dissolves salol, creasote, etc., and that when these solutions are mixed with water, an excellent white emulsion is obtained. The notion might be useful if sulforicinic were obtainable, but inquiring pharmacists report that they do not find the article on sale.

Meanwhile, Maniel's new method of emulsifying naphthol seems likely to achieve popularity. It consists simply of dissolving naphthol in ten times its weight of oil of sweet almonds, and emulsifying the latter with water, gum, and other ingredients of the potion. The naphthol appears in this mixture in a perfect state of division.

Suilliot and Raynaud's method for the complete transformation into iodoform of the iodine contained in alkaline iodides, by means of caustic soda, acetone and nascent hypoiodite of soda, has revolutionized the manufacture of that important article. A large laboratory is now in operation at Poterie-de-Belbœuf in which iodoform is made in great quantity directly from the mother liquors of the sea-weed lyes. The *Réport. de Phar.* says: "The absolute iodoform obtained by acetone, crystallizes in the form of micaceous scales of a beautiful pale-yellow color, which are soluble without residuum in alcohol, ether, chloroform, sulphide of carbon, etc. Its purity being absolute, it has only a faint odor, and by this it is easily distinguished from the iodoforms obtained with alcohol." It seems that with acetone the reaction is complete, and no free iodine is formed to give rise to unwelcome iodic salts. Hence, the proposed new name of "absolute iodoform."

M. Carles, a Bordeaux pharmacist, proposes a very sensitive reagent for the detection of mercurial vapors. He prepares a saturated aqueous solution of nitrate of silver, which he treats with liq. ammonia until precipitation ceases. The solution is colorless and keeps well.

In using, a pointed stick or goose-quill is dipped into the liquid, and a few lines are traced on writing-paper, the excess of liquid being taken up with a blotter. The paper is then divided into two portions, one of which is exposed to the vapor suspected of containing mercury. The difference of tint of the paper so exposed, as compared with the other portion of the paper, decides the question as to the presence of mercury.

The tendency of solutions of iodide of ammonium to turn yellow may be obviated, according to M. Soucheire, by agitating with it a few grammes of any pure, powdered fecula. The agitation should continue for two or three minutes; on filtering, a small quantity of iodide of starch will be found upon the filter, showing that the usual cause of trouble in iodide of ammonium solutions is the presence of free iodine. It is easily perceived that solutions made by M. Soucheire's method contain no fecula, for, a drop of iodine added to them produces no blue coloration after several days had elapsed.

Thallin is falling into disuse here as an antipyretic, though, as the pharmacists say, "Foreign doctors continue to prescribe it." Dr. Albert Robin lately gave it a heavy blow in a communication to the *Académie de Médecine* concerning its physiological action. He said: "Thallin diminishes the total destructive assimilation, and particularly that of albuminoid matter; but it arouses the destructive assimilation of organs rich in sulphur, and this influence persists after the medicament is withdrawn. The parts of the organism rich in phosphorus (nervous system, red globules, etc.), undergo a more marked species of destruction, but this does not continue after the medicament is discontinued. Thallin diminishes the excretion of uric acid, but does not stay its formation. Its influence upon fermentation in the abdomen is slight and fugacious. Hence, thallin is a poison to the blood-globules and the nervous system, and, its antipyretic action, being associated with these effects, is false and dangerous, conducing to anæmia and nervous failure. As it retards the elimination of uric acid, it should never be prescribed for arthritic or nephritic patients."

A committee appointed by the International Congress of Chemistry proposes some excellent changes in chemical nomenclature. Among these, M. Grimaux advises the disuse of the termination *ol* for hydro-carbons, this being the most desirable designation for alcohols and phenols. For hydro-carbons of the aromatic series, he thinks the termination *ene* should be used, and this should gradually replace that of *ine*, whose use has been so greatly abused. The Congress decides also, that for bodies formed by a duplication of radicals, the prefix *Bi*, *Di*, should be employed, the latter being reserved for double decompositions. They propose that such words as diphenyl be now called biphenyl, etc. The change is, of course, very desirable, especially if it can be made current within ten years or so.

Dr. Bec seems to have discovered that essence of lavender possesses antiputrescent properties. A grave-digger, on disinterring the body of a man who had died of pneumonia two years before, found that it was in a good state of preservation and free from odor. Inquiry developed the fact that at the time of the funeral, the son of the deceased gentleman had saturated the garments of the corpse with lavender water in order to save the pall-bearers from any unpleasant excitation of their respective Schneiderian membranes. It appeared, on careful examination, that the lavender had not only preserved the body, but the textile fabrics in which it was enveloped.

"Iodine leaves" seem destined to become nearly as popular for the local application of iodine as the mustard leaves of phenomenal popularity. M. Méhu, Chief Pharmacist of the Charité Hospital, having demonstrated the property of fixing iodine possessed by cellulose, experiments for making suitable iodine leaves have been quite plentiful. MM. Bréaudat and Cathelineau's process—which seems the most suitable—is given as follows in the *Répertoire de Pharmacie* of Dec. 10th. The tissue (a well-milled muslin) is soaked for a few minutes in a 2 to 100 solution of carbonate of soda. It is then expressed, washed, and placed in a 4 to 100 solution of chloride of lime, where it should remain for about half an hour. It is then well washed in clear water and placed in a 5 to 100 solution of hydrochloric acid. A quarter of an hour of this, and it is washed again and carefully dried. Finely pulverized iodine is next spread evenly over the fabric, which is then very loosely rolled and placed in a jar that is lightly warmed. As soon as the iodine commences to volatilize, the jar is closely corked and placed in a water-bath, where it is subjected to a heat of 212° F. The fabric absorbs the iodine in about two hours, when the "iodine leaves" are ready for use. It is said that these will give all of the beneficial effects to be derived from local applications of the tincture, without burning or blistering the skin.

It was thought that really new and stable compounds had been found in the phospho glycerites of soda and of lime. In a note to the *Société de Pharmacie*, however, M. Varenne states that "the salts in question are perhaps not chemical combinations, but merely mechanical mixtures"—an opinion which pharmacists will regard as probably true.

There is not much of interest to report just now concerning the doings of the scientific societies. Their discussions this winter have been largely over technicalities, or the local business of pharmacy, which seems to be always in a more or less unsettled state.

The influenza, or epidemic catarrh (whose slang designation of *la grippe* seems to have been largely adopted by American lay newspapers) has had full swing here, and added largely to the business of local pharmacists. As to treatment, the most successful seems to be with minute doses of aconite, given at short intervals; 3-grain doses of quinine, thrice daily; and ipecac in some form as an expectorant. As in other epidemics, diseases of an analagous class are worked in to swell the list of influenza cases, and we often hear of broncho- and pleuro-pneumonia, as well as bronchitis and pharyngitis, classed under the broad convenient head of epidemic catarrh. I suppose that no medical man here ever entertains the notion that men really die of influenza; yet the papers give lists of people supposed to have died from that cause alone.

The recent death of M. Quesneville, proprietor of the *Moniteur Scientifique*, puts a sudden end to that very valuable journal. The loss will be felt in commercial as well as professional circles, for Dr. Quesneville was particular to record all useful scientific transactions. This scientist was eighty years of age, and had always been an energetic worker in his field of labor. French savants seem to have discovered the secret of longevity. It is true, however, that French physicians do not live so long as the average business man; but their amiable German confrères explain that this is because they take their own remedies.

MM. Tanret and Vêe took first-class prizes for pharmaceutical products at the Exposition. and have been named Chevaliers of the Legion of Honor—which is nearly as grand a circumstance, in their estimation, as an election to a senatorship would be regarded by an American.

LONDON LETTER.

The Evening Meetings of the Pharm. Society—Scopolia Carniolica—Its Constitution and Its Preparations—Euonymin—Fluid Extract of Wahoo Bark.

At the evening meeting of the Pharmaceutical Society, a series of papers were contributed respecting the research work that has been undertaken at the laboratory, to determine the constituents of *Scopolia carniolica.*

Scopolia, member of the Solanace, may be considered as standing midway between hyoscyamus and belladonna. Only a few varieties of it exist: *Scopolia Japonica*, of which the designation sufficiently indicates the habitat of the plant; *Scopolia luridus*, which flourishes in the Himalayas; *Scopolia carniolica*, and a variety of it, *Scopolia Hlaanikiana.*

S. carniolica, which attains a height of about a foot, is a plant with leaves very closely resembling those of belladonna, but of much thinner texture, and possessing a rhizome, which was the portion of the plant subjected to investigation. The flowers are of a purple color, which is the principal distinction from the Hladnikiana variety, the latter having green flowers. *S. carniolica* grows wild in Austro-Hungary, the green variety being also to be met with there, but only in a very few places. Under the appellation of Japanese belladonna root, *Scopolia Japonica* is a frequent visitor of the London drug market, and has been investigated by several authors, notably by Prof. Schmidt, who established that it contained atropine, hyoscine, and hyoscyamine.

For about a year the rhizome of *Scopolia carniolica* has also been introduced to commerce, and it is this member of the species that Prof. Dunstan examined. He discovered that it contained hyoscyamine in a very pure condition, and possibly a trace of hyoscine.

The melting point of the hyoscyamine and its distinctive compound with auric chloride, amply demonstrated the identity of the substance. In addition to the alkaloid, Prof. Dunstan investigated the fatty constituents of the drug, and found that 5 kilos of the body yield 90 grammes of fat, part of which was saponifiable. Another portion that was examined was found to consist of cholesterin. Prof. Dunstan further established, which had not been noticed previously, that the ordinary belladonna root contains a large proportion of cholesterin, as does also the *Scopolia Japonica.*

The contribution of Mr. Francis Ransom, who is *par excellence* the person to undertake the investigation of drugs containing belladonna alkaloids, introduced the drug in its pharmaceutical character. He found it to contain 0.43 to 0.51 per cent. of total alkaloid, while samples of belladonna which he examined between 0.35 and 0.39 per cent. only. He prepared the various compounds corresponding to the belladonna preparations, viz.: liquid extract which contained 0.25 per cent. of alkaloids; tincture containing 0.12; liniment containing 0.2; and ointment with 0.2 per cent. of alkaloids. These preparations were all tested by Sir Dyce Duckworth, whose report on them was not unfavorable. He employed them in cases where belladonna would be prescribed, and stated that it had some advantages over the latter, as it did not cause dryness of the mouth or skin, nor were the pupils dilated when the drug was administered internally.

The botanical examination was undertaken by Mr. Holmes: the plant has a rather involved history, and has appeared under a variety of names. Hitherto it has been rendered as "Scopolia," but Mr. Holmes found that the true orthography is "Scopola," with the "i" omitted. This is the name bestowed on it by Jaquin, who was the first, after Linnaëus, to give a description of it; it is customary, when any confusion exists, to revert to the designation given by Linnaëus, or to the first binominal appellation published after 1753, the date of his *Species Plantarum.* Linnaëus named it *Hyoscyamus scopolia*, but the plant differs in so many features from Hyoscyamus, that it had to be classified as a new species.

Mr. Greenish who examined the Scopolia rhizome microscopically, found that in the structure it much resembled belladonna root.

If we have anything to say concerning these papers, it is that Prof. Dunstan did not, perhaps, give as much credit to the contributions of other investigators of the same subject, as they deserved.

Prof. Dunstan, stated in his introduction, that the publication of the papers was caused by an announcement in a German periodical that Prof. Schmidt, of Marbourg, stated at the Scientists' Congress at Heidelberg, that he was working on a species of Scopolia, which Prof. Dunstan thought likely to be the same that he had been engaged with. Such a complete worker as Prof. Dunstan, should not, however, have overlooked the fact, that not only was the above statement made, but that a report was published four months ago, of the researches of Finzelberg, respecting *Scopolia atropoïdes*—a synonym for *Scopolia carniolića*,—who established the presence therein of hyoscyamine and hyoscine; a fact which rather discounts Prof. Dunstan's priority of investigation, although the latter was presented with so much aplomb.

Of course this does not at all diminish the value of the work of Prof. Dunstan, but we ought, at least, to expect that necessary acknowledgement to other authorities should be made.

Prof. Schmidt, formerly investigated the *Hladnikiana* variety and detected hyoscyamine, which is so far of interest that it corroborates the results of Prof. Dunstan, the *Hladnikiana* being simply a variety of the *carniolica*, and providing practically the sàme material for examination.

What practical value will be obtained from these papers we cannot at present tell, and it is an open question whether there is any necessity for a substitute for belladonna root.

The various communications were surely very interesting, and demonstrated that we are not compelled to rely only on the Atropia species, for mydriatic alkaloids.

A second paper given at the meeting dealt with Euonymin, and was a contribution from Messrs Naylor & Chaplin, who had also read a similar communication at the Pharmaceutical Congress. One fact the authors pointed out is not at all surprising to those who purchase the article, viz., that there exist very inferior qualities of euonymin, and that it is extensively adulterated, such substances as barium carbonate, etc., being added, so that the drug varies enormously in its composition and solubility. Mr. Naylor, therefore, recommends that fluid extract wahoo should be used in place of the euonymin, and that if the latter is used it should be prepared by extracting the root bark with not less than 65 per cent. alcohol. From their standpoint there is nothing unfavorable to be said against their proposals, as certainly only such preparations as are pure and effective should be employed. There is no doubt that euonymin is an excellent remedy in hepatic ailments if it is a reliable preparation. Unfortunately, the drug offers one of the worst examples of what we can only term downright robbery on the part of some pirating manufacturers and drug houses, who exist simply on what they can take away from houses of world-wide reputation by copying and imitating their products—products that are only attainable by taking an immense amount of trouble and not counting the cost. That such counterfeit rubbish should be sold in place of the scientific preparations that are satisfactory to both prescriber and patient, is in some measure the fault of the pharmacist, who does not always appreciate the advantage he obtains by using only pure drugs from first class sources, and does not remember that extreme cheapness inevitably insures inferior quality.

If chemists would only give more consideration to this matter, there would be no necessity to recommend preparations of the Wahoo bark, as there are well known brands of euonymin in the market which can always be relied on to yield satisfactory results.

PHARMACEUTICAL NEWS FROM GERMANY.

THE PAST YEAR.

In this, my concluding letter for 1889, I intend, as in previous years, to give a brief glance backwards at the various incidents that occurred during the preceding 12 months.

You will probably remember that last year I drew your attention to the great progress that had been made in Germany in standard pharmaceutical preparations, and in this connection it must be admitted that the rate of progress and improvement has not only been maintained, but increased, in the current year; this is particularly applicable to fluid extracts, which have attained a higher degree of perfection and reliability.

It is now generally acknowledged that the introduction of new remedies has been carried on to an inordinate extent, so that inventors have defeated their own projects by glutting the market with their compounds, and by claiming too much for them, as naturally the greater the noise that is made when a remedy is brought out, the greater the disappointment and offense when the body is found not to possess properties claimed by its promoters. This surfeit of synthetical compounds is partly due to the anxiety manufacturers have now-a-days, to obtain a remedy they can patent and monopolize, which, when obtained, they push and exploit, and try to impose on the public quite irrespective of its character as a medicament, whether good bad or inert. A great advance has naturally been made in preparing and producing these new remedies, some being surely of much benefit, and being in constant use, will gradually be included in the official textbooks, as is already the case with antipyrin and lanolin, both being inserted in the new Austrian Pharmacopœia. On the other hand, there are many so-called remedies, which not only fail to make a reputation themselves, but detract from the credit of all the others. A similar effect is produced when we learn of drugs of high value being extensively adulterated; it has recently been announced in Germany, that fluid extract of cascara sagrada is largely falsified with aloes, and though, of course, this applies only to inferior brands, the better quality preparations suffer to no inconsiderable extent. Such statements naturally impair the confidence of the medical man in all new remedies. If some of your leading houses could have protected certain Galenical preparations—either by patent or registration, if this may be done—against wretched imitations, it would have been to the interest both of the patentor and the public, and Germany would have appreciated, and used, more American pharmaceutical products. Amongst the remedies alluded to above as bringing discredit on the whole class, Somnal—one of the latest hypnotics—is a prominent example. Prof. Liebreich recently remarked respecting this "remedy:" "It is a pity such an unknown mixture, with an indefinite constitution, should be prescribed by medical men; it is nothing but disguised chloral hydrate, and in prescribing it, practitioners are only encouraging quack medicines."

Another compound, which also can certainly not be said to be a success, is Thiol; it did not, however, long survive its birth, in spite of its pretensions to be better than ichthyol which it was intended to supersede. Altogether there does not appear to have been any important remedy brought out during the expiring year—with the exception perhaps of Chloralamid, which seems likely to be a formidable rival of sulphonal.

Of legislation there has happily not been much, a matter for congratulation, the German pharmacist being already too much looked after and regulated. That the younger chemists believe this, and want more freedom, is shown by the agitation that was organized by the assistants, to obtain a reduction in the hours of labor, particularly as regards the closing hour, a movement that was partly successful.

Germany is looking forward with much interest to the forthcoming American International Exhibition, for the Germans know that the feeling of surprise and admiration caused by products of American skill and energy, will be intensified by an Exhibition where all would be of the very best. Germany had an opportunity of showing her wares at the Paris Exhibition—certainly the chief event of the year—but it had nevertheless, a considerable influence on German industries, and there is no doubt that when an exhibition takes place in the States, the "Vaterland" will spare no effort to show what she really can do. The question of an International Exhibition in Berlin has been mooted and much discussed of late. An enormous profit would accrue to both countries if they could interchange the ideas, skill, and progress, exemplified in the products of both, by holding two large exhibitions within a comparatively short space of time, one in the States, one in Germany.

In concluding, I must not forget the journal through which my contributions reach you. I feel sure that readers will agree with me, that the DRUGGISTS' BULLETIN becomes more and more valuable every year to the pharmacist, from its principle of sparing no pains, and shirking no trouble, to give to the profession a full, complete, *resumé*, of pharmaceutical matters all over the world.

NEW YORK LETTER.

JANUARY 18th, 1890.

EDITOR OF THE DRUGGISTS' BULLETIN:

While business has been fairly active on the part of the wholesale trade since my last communication to your valuable paper, there has been nothing to boast of. On the other hand, commencing with the latter part of December, and up to the present, the jobbing trade of the Eastern cities has been literally overwhelmed with orders for medicines of all characters. This epidemic of influenza seems to have taken a very firm hold of the denizens of this part of the country, placing a large majority of our population on the sick-list. The result has been, that our druggists are as busy as bees, and our jobbers overcrowded with orders.

Antipyrin and Quinine seem to be great favorites, and standard remedies in the treatment of this disease: so much so, that the supplies of antipyrin in the hands of the agents have become entirely exhausted, and the manufacturers of quinine pills have been taxed to their very utmost to partially supply the demand. The newspapers indicate that the disease is spreading throughout the country, so that it but fair to assume that this same condition of affairs under which the druggists of New York are now suffering, will soon become common throughout the whole United States. So far as quinine is concerned, it is a wonder to all that the enormous consumption has not had the effect to materially advance the price of the salt. Such, however, has not, up to the time of this writing, been the case. It has only had the effect to stiffen the market, and to give a little more confidence to holders. Vast amounts of quinine, not less probably than five hundred thousand ounces, have changed hands in this city during the last three days. It has not passed, as often times is the case, into the hands of speculators, but has been withdrawn from the market for consumption. Had it not been that very large supplies were held throughout the country, the present low range of prices on the important salt could not have been maintained. As it is, there is a general expectancy on the part of holders that before many days a material advance in its value must take place.

Opium.—There have been no important transactions in this article, and its price has simply maintained itself, and nothing more.

Camphor has continued to advance. Consumption is very much greater than is usual at this season of the year, so that there seems no prospect whatever of lower prices, but on the contrary, it is expected that higher will be realized.

Menthol.—Our market here is about exhausted. The demand has been very much increased, owing to *la grippe*, and it has almost doubled itself in value. Still higher prices may be looked for.

Jalap.—The demand on this article has been very large, and no new supplies have come to hand. We therefore have to report a higher market than even existed at the time of my last writing.

Guarana.—This article is in exceedingly limited supplies, and has advanced very heavily in value. We are informed that there are no new supplies to come forward until the new crop is harvested.

Senega Root, together with all other plants that are used in bronchial affections, has advanced in value.

Saffron.—Supplies of the new crop have come to hand, and, as intimated in my last letter, are of exceedingly fine quality. There has, however, been no reduction in price, nor can any be anticipated.

Peppermint Oil.—There has been little or no demand for this oil; in consequence, prices have slightly fallen off.

Senna.—Both Alexandria and Tinnevelly are in full stock, and range low in prices.

Gum Arabic.—Of ordinary grades, supplies can be obtained now at prices ruling rather lower than in the recent past, with the exception of the first picked, which is in very light stock, and in fact quite unobtainable.

DISPENSING BY PHYSICIANS AND PRESCRIPTION REPEATING BY PHARMACISTS.

EDITOR DRUGGISTS' BULLETIN:

Reading your article to-day in THE BULLETIN for October upon the subject of "Dispensing by Physicians," I am constrained to say a few words in reply from the standpoint of a physician, not that I give all my sympathies to the physician; but rather as one who is intimately acquainted with the views and thoughts of both parties as touching this very important question or issue.

While it is true that the physicians' supply houses are obtaining their products from the pharmaceutical houses, we can not consistently hold the manufacturer responsible for the existence of these houses. There must have been a demand for these houses before they existed, else they never would have existed, and any manufacturer would now only cut his own throat by refusing to sell to them. If any one will carefully consider the cause that first developed the idea of such a house, I believe that he will reach the same conclusion that I arrived at, viz.: that there are no classes of men more responsible for the existence of these supply houses than are the retail druggists themselves, and the one thing which has influenced the physicians of the country in this departure is, the almost universal practice on the part of the druggists of refilling prescriptions over and over again without the knowledge or consent of the physician who first gave the prescription. Of course, we know that the law will sustain the druggist in this matter, still he is not obliged to do it, and those men who do not do it, and who refer all applications for the refilling a prescription to the doctor, are the men who are establishing friendly relationship with the physician and are making the prescription trade a grand success, while those who refuse to recognize the physician in this matter are in a continual fight with the doctor. When I look into the matter and see to what extent it is carried, I am firmly convinced that this practice of refilling a prescription without the knowledge or consent of the physician is one of the greatest wrongs to the doctor, and it is one which the physician will never tamely submit to; and if it is persisted in, it will only end in rupture of all friendly relationship between druggist and physician, driving the latter to self-dispensing, and thus creating a demand for still more of these supply houses throughout the country. Here is a case which illustrates the situation quite clearly, and shows that the physician's ground of complaint is well founded.

A short time ago I met a man who enjoyed a good practice in a town of 12,000 inhabitants, I found him dispensing his own medicines, and was a little surprised, for he had always done a prescription trade. When I asked him for the reason of this, he said he had lately been convinced that he never could do a prescription business and live by it. He was called out 6 miles to attend a woman in her confinement. While there he saw a bottle of medicine, and asked her what she was taking. She replied: "Doctor that is one of your own bottles. You remember last spring Mr. Brown, some 4 miles from here, was sick with cholera morbus. You gave him a receipt, and it was filled at the drug store, and the druggist put a number on the bottle and told the man that if he wanted any more he could get it by sending in the bottle with that number on it. That case was the beginning of a regular epidemic of cholera morbus, and that bottle has been used by every family for miles, and you don't know doctor what a world of good your one prescription has done this community." "I, "said the doctor," have doctored that whole community for six months for 50 cents, and when I protested to druggist Smith about it, he got mad and told me it was none of my business. That was the starting of my dispensing, and from this time I shall give no more prescriptions to any one and be robbed in that wholesale manner." I afterwards brought this up in conversation with the druggist, and learned that the story told by the physician was correct, and the druggist said he had done nothing more than he should do right along.

This is only one example of many I might give to show that it was the act of the druggist who first forced the doctor to dispense his own medicines. When the doctor applied to the manufacturer and jobber for medicines, his order was dishonored and his money returned to him. The influence of the physicians were then combined, and as a result we have physicians' supply houses all over the country.

If all the druggists would agree to refuse to refill prescriptions without the consent of the physician, I believe the trouble would be in a great measure remedied.

I have in mind the example of a druggist in a city of 26,000 inhabitants who has protected the interest of the physicians in this way for years. It is known to every doctor in the city, that at different times this druggist has discharged two of his best clerks for not strictly following the directions as given in the prescription. As a a result, he gets nine-tenths of all the prescription trade of the city, and some of the physicians give him as high as 1,000 prescriptions each month, on an average, the year round. The dividends of this druggist last year amounted to $35,000, and the profits from the prescription trade of the thirty physicians of that city was no small part of this handsome gain. These physicians gave this druggist their full support in return for his strict compliance with their wishes, in *filling prescriptions as specified, aud refusiag to refill without their consent.*

There might be just as friendly a relationship between druggist and physician established all over the country, if the doctors' rights were fully respected in this matter. Let this be done, and I believe that all would see that the demand for physicians' supply houses would diminish as rapidly as they are now springing into light.

A. J. R.

A SHORT-MEASURE OUNCE BOX.—W. A. Gill & Co., the well-known manufacturers of seamless tin boxes, wish to call the attention of the drug trade to a one-ounce (in name only) tin box which has been freely quoted at a little less than theirs.

Although the box referred to *was called* one ounce, the *actual capacity* was but three-fourths ounce. Parties who were misled into buying, thinking they were getting a lower price, will discover the deception when they try to put an ounce of ointment into a three-fourths ounce box, *called* one ounce.

They will also see, by comparing the price of the so-called one ounce box with Gill's three-fourths ounce box, which is of the same capacity in fluid ounces, that they paid more money by 10 to 15 per cent. We take it that the average druggist is too smart to be imposed upon in the same manner a second time. Any manufacturer who would resort to such deception, would be served right to have all such goods returned. Messrs. Gill & Co. make their boxes full capacity, as designated by their sizes.

Book Reviews.

Lessons in Botany. A. Wood. Revised by Oliver R. Willis, A.M.. Ph.D. Published by A. S. Barnes & Co., New York and Chicago.

Simplicity and clearness are characters which have marked all the books of the Wood Botanical Series, and the editor of the present volume has well succeeded in retaining these important elements. Comparing this work with its predecessor, one is impressed at a glance with the progress which has been made in our understanding—and especially in our habits of thinking—of the fundamental principles of this science. The change pertains especially to physiology and physiological anatomy, so that a book now-a-days is considered conspicuously lacking if it does not devote five-fold the amount of space to these subjects which would have been considered ample a quarter of a century ago. In some respects the tendency in this direction has of late reached the extreme—or rather, it has induced an undesirable neglect of the departments to which such knowledge should be only the stepping-stone. Here again our author has been fortunate in striking the happy medium, and judiciously proportioning the different divisions of his subject. Altogether, we are happy to see that our old friend has not been dismissed, but only kept in retirement until fitted for a reintroduction in fresh garb.

The Trinidad Agricultural Record. The official journal of the Central Agricultural Board of Trinidad, November, 1889. Embracing reports of botanical, chemical, and agricultural topics of general interest to merchants and planters.

One of the happiest spectacles of the age, and one which marks our civilization as different in kind from any that has preceded it, is the intimate associations that have arisen on every hand between Science and Art. It was not remarkable that such associations did not pertain to earlier ages. It is a peculiarity that Art can utilize Science only when the latter has arrived at something both positive and accurate. The practical always tests severely the theoretical. Science is only fairly beginning to stand this test well, and, as she does so, her productions are not only freely utilized, but naturally a kindlier and more tolerant feeling is mutually cultivated between the representatives of the two interests. Trite remarks, doubtless; but very *apropos* of the receipt of this publication, whose table of contents mingles the following titles, which space forbids us to do more than mention. An editorial upon "Parasol Ants" follows one upon "The Chaguanas Depot as a Farm." "Nature at Fault" stands between "A Boom in the Banana Trade" and "Cultivation at the Convict Depot," while "Modern Botanical Work" follows a contribution upon "Chemical Analysis in Sugar-Cane Factories;" and the number closes with "Meteorological Returns" and "Monthly Prices Current."

Facetiæ.

THE EVILS OF REPEATING PRESCRIPTIONS.—

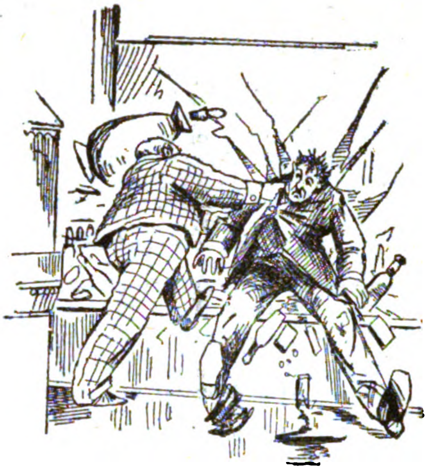
SPIRITUS FRUMENTI.

Please give to the bearer the above-named potation—
He's a pretty good chap, and of very high station;
The liquor he craves is known as Frumentum,
And my name at the bottom will tell you who sent him.
The letters "Q. S," to be very explicit,
Is the medical dodge—known as "quantum sufficit,"
But, if a special translation you crave for,
It is simply this: Give him all he can pay for.
His case is severe, so pray don't refuse it—
He's a member of church, and knows how to use it.
So, please, don't fail this, my first requisition,
For I'm sound on the goose—an old school physician.

"Would you be kind enough to dispense this prescription—and—ah! I—I would prefer taking it at once in a glass of plain soda."

ONE HOUR LATER.

"Say, young fellow, you are the slickest dispenser in America; that last dose seems to have reached the seat of my complaint, but I am not quite cured; fillerup-again."

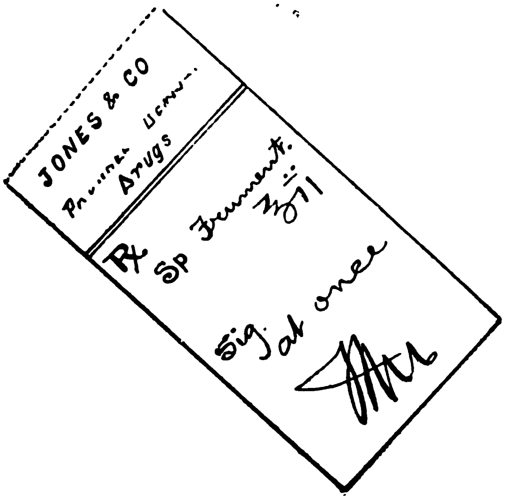


HALF AN HOUR LATER.

"Shay, cully, I'd like t' have shat p'srip'shun r'peated 'gain, quickernblazes! I'm the wild man from Borneo! Whoop e-e-e yah!"

Led, like a lamb to the slaughter, to the tune of:
"Oh! what must it be to be there?"

THE PRESCRIPTION.



JONES & CO
[illegible]
Drugs

℞ Sp Frument. ℥ii

Sig. at once

FAIR DISPENSERS.

[Four ladies—Misses Brittain, Moore, Cook, and Bowen—have recently qualified and been appointed dispensers at various hospitals.]

Here are ladies as dispensers; each a fascinating fixture
In the surgery, presiding over measures, weights, and scales;
They will spread a careful blister, or will make you up a mixture
That should surely prove more potent than the same dispensed by males.
They've forsworn the fads of fashion, wearing ermine and chinchilla,
But they understand prescriptions and the doctor's mystic signs;
Does your system need a tonic, there's the pleasant cascarilla,
And the piquant tinct. aurantii, like bitters ere you dine.
You will never shirk your physic when a maiden wields the measures,
And drops in the minim, or the calculated drachm;
You may rank your mustard plaster 'mid the first of earthly pleasures,
And you'll take her pretty powders without asking for the jam.
When a fairy hand compounds it, sure a dainty draught or potion
Should possess a unique value for the cure of human ills;
You will rub it in quite gaily when a lady makes a lotion,
And will even, pray believe me, find there's poetry in pills.
Every bottle, when it's opened, will be sweet as any posy,
And you'd like to take more doses than the label says is right;
For they'll tempt you on occasion with the sweet syrupus rosæ,
And the charming tinct. lavandulæ will flash upon your sight.
Give the ladies, then, a bouquet of the aloe Barbadensis,
With the folia digitalis crown the pharmaceutic belle;
Fill the goblet vino Xerici to each one who dispenses,
May they never need the physic they themselves make up so well.

H. C. S., in the *St. James Gazette*.

DR. PSCHARLATAN AND HIS WONDERFUL CURES.—I have seen whole columns of the daily papers, of late, filled with the wonderful cures performed by a self-styled "celebrated physician" and have come to the conclusion that if his commonplace efforts in the healing line are worth printing, my remarkable cures are a thousand times more so, and consequently have ventured to send a few reports to the BULLETIN, instancing some of the cases treated with my magic remedies, Fake-a-lin and Hoax-a-tine. The ingredients for these remedies are gathered for me by my special agents on the shores of the Sea of Galilee and among the natives are held in high repute, some of them going so far as to attribute to them miraculous powers. There is a tradition, given much credence among the dwellers in Capernaum and Magdala, to the effect that Fake-a-lin, which is a balsam ot wondrous drawing qualities, was known and used by Solomon to draw the great cedars, used in building the temple, from Lebanon to Jerusalem, but as this is mere country lore I do not advance it as proof. Hoax-a-tine is a remarkable tonic, and blood purifier, cures consumption, rheumatism and insanity; removes warts, corns, and bunions; relieves deafness, blindness and club-foot; heals broken limbs; and when not needed to cure human ills may be hired out at a dollar per day to do section work or shovel coal. The secret of these compounds was imparted to me by the Wandering Jew, whom I met in Natal on his perennial pedestrian tour, and I lost no opportunity in proving the truth of his remarkable statements, as the following reports will show.

CASE 1.—I had not been long practicing in the suburban town of Philadelphia, Pa., when Richard X——, a young man 19 years of age, was brought to me for treatment. He had been born blind and club footed, and I at once determined to try Hoax-a-tine in his case. I commenced by administering 15 drops daily. At the end of four weeks he could see daylight. After two months' treatment he could read the headlines in the Detroit *Sunday World*, and his foot was beginning to uncurl. At the end of six months he walked away from my Sanitarium with a foot as straight as any one's, and could read the finest print. Remember, this young man had never been taught to read, and this discloses another feature of the great powers of Hoax-a-tine.

CASE 2.—Lawrence M——, had gone into a saw-mill and struck up a flirtation with a small circular saw. I clipped off the hanging flesh at his wrist, dressed the stump well with Fake-a-lin, and told him to call in one week and I would re-dress it for him. Judge of my surprise on removing the bandages, to find the point of a finger, with the nail partly formed, protruding from the center of the wound. I was deeply interested. I placed him at once under my constant charge, and applied another dressing of Fake-a-lin. In two weeks, all of the fingers and part of the thumb had appeared, and after two months he was discharged with a new hand. No one could ever read the writing produced by his old hand; he is now writing master at one of the leading business colleges in Chicago, and will be pleased at any time to verify my statements, and send samples of his copper-plate chirography. All the result of Fake-a-lin.

(Incidental to the power of Hoax-a-tine to remove pains, I may say that I left a bottle of it standing on the window-sill of my office window. The bottle was accidentally broken at one o'clock p. m., and at three o'clock there was not a square inch of glass in that window.)

CASE 3.—Mrs. B—, of Grand Rapids, attempted to regulate her lord and master on the evening of the fourth of July last. He objected to the process, and to cool her ardor, playfully held her head under the water-faucet, but, absent mindedly, turned on the hot-water—result—three days after, Mrs. B—'s head was as bald as the end of a pestle. *She* applied to me, *I* applied Fake-a-lin, and on the 12th of last September she was engaged by the Sunderland Sisters to travel with them as one of the family. Length of her hair December 1st, 87 inches.

CASE 4.—Cornelius Quimby, a farmer living near Omaha, writes that last summer, there being no sickness in his family, he used a bottle of Hoax-a-tine to do his road work. It did 37 dollars work of ditching and hauling gravel, and he was now using what was left in doing his fall ploughing, while waiting for two new hoofs to grow out on one of his horses, that had indiscretely stepped against the reaper knives while in motion. He uses Fake-a-lin on the horse.

I might go on at great length instancing cases equally remarkable with the foregoing, but what use? These are sufficient to convince the most skeptical of the wonderful properties possessed by my remedies. In closing, I may say that as I write my six-year-old boy has a box of Fake-a-lin hitched to his express wagon and it is drawing him all around the yard. My wife sits quietly sewing in my study, while a bottle of Hoax-a-tine is doing the week's washing in the kitchen.

Yours, therapeutically, ADAM PSCHARLATAN, D. PH.

[Of course you say the foregoing is all nonsense. Well, perhaps it is. Yet it is no more nonsensical than the columns of trash of a similar kidney, one may daily read in some of our leading papers. Purchased lectures, delivered by a self-styled "physician," who pays so much per line for a chance to gull a public which appears only real happy when being gulled. No harm will come of the reports from Dr. Pscharlatan, but the false manufactured histories of "wonderful cures" performed by some self-graduated M. D.s of the present day are designed to have a baneful effect upon the public, as well as to lower the standard of the paper printing the misleading and utterly nonsensical advertisements.]

A. Nother.

Abstracts and Translations.

Scopolia Carniolica[*]—A Substitute for Belladonna.

The rhizome of *Scopolia carniolica*, Jacq.—Half a dozen persons had been engaged in the research, the result being as many papers. We shall put them into one. The first was "Introductory," by Professor Dunstan. The gist of it was given in the opening sentence, "How we came to examine this drug." This was because, eighteen months ago, when belladonna was scarce and dear (it is so still) it was offered to Mr. Ransom under the name of "*Belladonna scopolia*," as a substitute. It came from the Carpathian mountains, and was said to possess mydriatic properties. The rest of the introduction is told in what follows.

The Chemistry of the Drug was the subject of the second paper, and had been investigated by Professor Dunstan and Mr. A. E. Chaston. It may be mentioned here that other species of Scopolia are known. *S. Japonica* yields "Japanese belladonna root," which has been investigated by Eykman, who isolated an active principle which he called Scopoleine, but this was found by E. Schmidt to be a mixture of atropine, hyoscyamine, and hyoscine. This was so much to go upon, and the authors took advantage of it by working direct for the alkaloid by treating the powdered root by percolation with alcohol and evaporating the percolate to extract consistency. This they treated successively with dilute hydrochloric acid, chloroform, and ammonia and chloroform, by the regulation methods, the alkaloidal residue being finally crystallized from anhydrous ether until it was obtained of a constant melting-point—108.5° C.—which closely corresponds with the approved figure for hyoscyamine. The yield was exactly 0.5 per cent., and it was proved that no other alkaloid was present. Professor Dunstan proceeded from this point to explain to the meeting how he and his coadjutor, by the employment of fractional crystallization of the alkaloidal aurochloride, sought to place beyond doubt their conclusion that they were dealing solely with hyoscyamine; but we shall spare our readers this precise portion of the communication, and may say briefly that the object of the laborious crystallization and melting-point determinations was to show that not a trace of hyoscine or atropine was associated with the hyoscyamine; and the authors thought that if those who have investigated other atropaceous drugs had been equally careful in their manipulations, they might have found that nothing but hyoscyamine does exist in them. In addition to the alkaloid, the authors isolated from the root 0.1 per cent. of cholesterin (which they have also found in belladonna root), some fat—the examination of which is not completed, but it appears to be arachic acid—and two other constituents, viz., a crystalline sugar and a fluorescent substance which seems to be identical with the scopoleine found by Schmidt in the root of *S. Japonica*, and which is identical with the methylesculetin of belladonna root.

The Pharmacy of the Drug was the subject of Mr. Francis Ransom's paper. He mentioned that Mr. Richard Reynolds, of Leeds, has grown the plant in his garden for some years. Then he proceeded to tell the meeting that the root can be assayed by Dunstan and Ransom's method for belladonna. So treating it, he had found 0.54 per cent. of alkaloid in root from Arabia and 0.51 per cent. in German root. Belladonna root contains from 0.35 to 0.39 per cent. of alkaloid. It would seem, therefore, that Scopolia is a medicinal agent of considerable value, and specially adapted for Galenical preparations of standard strength, which might be used in place of belladonna preparations. Such was Mr. Ransom's conclusion. He then told the meeting how to make the preparations. The best menstruum is a mixture of 4 parts alcohol and 1 part water. The solid extract should be standardized to 2 per cent. alkaloid, the liquid extract to 0.25 (this being well adopted for making the liniment and the tincture). Plaster and ointment can also be made by formulæ corresponding to those for the belladonna preparations.

The Therapeutic Action of the preparations naturally followed. Sir Dyce Duckworth, M. D., was the contributor in this department. His paper was half preface, half practical information. The preface was very entertaining. Sir Dyce began by telling the meeting that he is not much given to experimental therapeutics, for he is so conservative that he prefers to exercise his art with old and commonly approved remedies. Moreover, in his clinical teaching he strongly inculcates humanity in dealing with cases. He does not think that because a patient is an hospital patient these rules should be less rigidly adhered to, for he holds to the principle that the modern physician is not called upon to treat diseases, but patients suffering from diseases. Although the meeting appeared to appreciate fully these forcibly expressed humanitarian views, it did not quite appear why Sir Dyce should have given expression to them there; but a reason seemed to be given in what followed. The medical knight abhors "the cheap press," and ignores it. [What *is* the cheap press? by the way.] Why? Because this press criticises—ignorantly criticises—what goes on in hospitals. He, therefore, avoids such comment by never experimenting, but by sticking to proved remedies. Still, if we are to gain knowledge of new remedies, if we are to use all means in our power to combat disease, we must try the remedies, and the modern way of doing it—viz., by physiological experiments on animals, and then clinically—is surely better than the old way of putting every patient in a ward under the influence of the drug, and collecting the results. Research, although it may show results contrary to preconceived ideas, is not lost (Sir Dyce Duckworth proceeded to say). He was in full sympathy with the experiments which were going on in the Society's laboratory, and wished it success. He greatly regretted that legitimate physiological experiment was so impeded by Government regulations that British physiologists have to depend upon researches in other countries for their facts. Thereby they have become "the laughing-stock of scientific Europe;" and, it may well be imagined, Sir Dyce had no pretty things to say of the anti-vivisectors who have brought this about—one of his cruellest remarks being to the effect that, much as anti-vivisectors object to experimental physiology and therapeutics, they are ready enough to take advantage of the knowledge which is so acquired.

---

[*] The paper of which this report is an abstract, was presented at the Pharmaceutical Society of Great Britain, at a recent meeting, by the Research Laboratory.

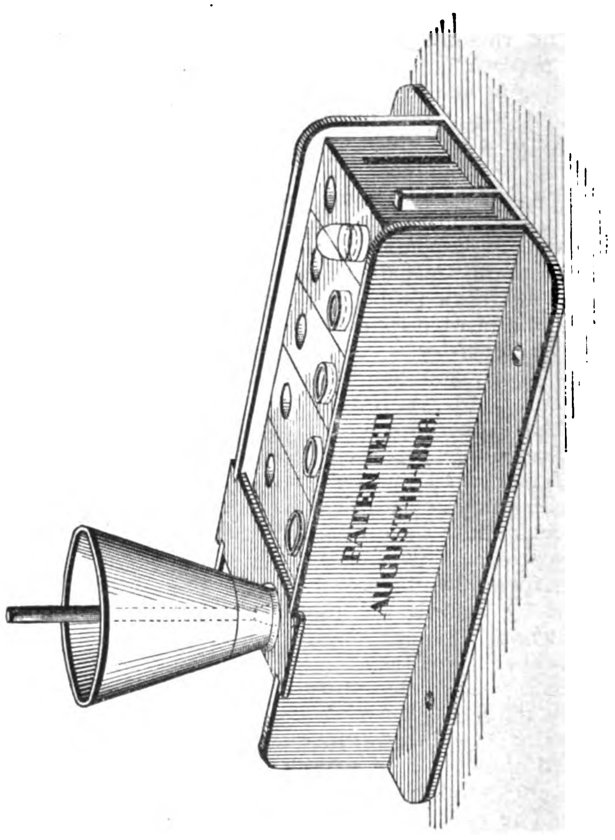
He then proceeded to give particulars of the cases in which the new drug was tried in the place of belladonna. It proves an efficient anhydrotic, checking sweating as well as belladonna, without producing dryness of the mouth or dilatation of the pupil. Applied locally it proved an effectual anodyne, affording relief in a case of enlargement of the glands of the groin, while in other cases, in which the patients were recovering from rheumatic fever and were troubled with painful wrists, the Scopolia liniment acted better than belladonna liniment. The plaster also relieved heart-pain in the case of a girl suffering from chlorosis. On the whole he thought that the new drug deserved a place in therapeutics, especially if, as he learned, it could be obtained cheaper than belladonna, the high price of belladonna liniment being one of the greatest objections to its use by poor people.

The Natural History of the Drug.—Mr. E. M. Holmes had undertaken this department of the subject. He showed that the plant was first described by Mattioli —an Italian botanist—as "*Solanum somniferum alterum.*" This was in 1563; and from that time to 1837, when G. Don gave it as *Scopolia carniolica*, the plant had been known by various names. Dr. Scopoli, in 1764, had paid some attention to it, and it was in honor of that botanist that Jacquin founded the genus *Scopolda*. Mr. Holmes proceeded to show why this old name of the genus should take the place of the name "Scopolia," which has been adopted in the "Genera Plantarum." He then told the meeting that the plant grows in Eastern Germany and Hungary, and extends to Southern Russia. It was from the Carpathian Mountains district that the drug under examination was obtained. The plant resembles belladonna in many respects, but is not so tall or robust. It grows best in damp soil, in the shade. Its root is a rhizome—not a root-stock, as belladonna is. Its leaves are larger, but thinner and greener. The flower is like that of belladonna, but the fruit more resembles henbane fruit. It flowers in March and April. There is very little difference botanically between it and *S. Japonica*. A herbarium specimen of that plant was on show—the only specimen in this country, Mr. Holmes having obtained it from a Russian professor—and the close similarity between the two kinds was forcibly explained. Then Mr. Holmes spoke of the rare garden plant, *S. Hladnikiana* (so given, not *S. Hardnickiana*, as generally written), with its green flowers, and *S. viridejolia*, with its yellow flowers.

Histological Structure.—Mr. Thomas Greenish gave a lucid account of his microscopic work on belladonna root and Scopolia root. They are very much alike; the latter being, if anything, more delicate in structure than belladonna. Both possess characteristic bundles of raphides (calcium oxalate), which differ from the isolated crystals shown by henbane and stramonium.—*Chemist and Druggist.*

A New Capsule Filler.

Through the kindness of the inventor, we are permitted to illustrate one of the most practical capsule fillers which we have seen. It is known as the Acme capsule filler, and is manufactured by the Acme Capsule Filler Company of Washington, D. C. It is composed of a nickel-plated base, funnel and incline, and four wooden slides. The slides are bored to fit and hold the seven sizes of capsules manufactured by Parke, Davis & Co.



A capsule can be filled in one-fourth the time taken by any other process now in use; no portion of the drug need get outside of it, and it can be filled with a powder as quickly as with a pill, the filler being as well adapted for capsuling pills as powders.

The instrument is exceedingly simple, and has no perishable parts. With a little practice capsules can be filled with quinine without the slightest bitter taste on their outer sides.

The following are the directions for capsuling powders:

1. Select slide numbered to correspond with number of capsule. 2. Remove caps and place bodies of capsules in the holes of slide until they are filled. 3. Place slide in base and push it along until the first hole is under funnel (which will be shown by groove in upper face of slide coming even with outer margin of cross bar supporting funnel). 4. Screw funnel down on slide until it fits neatly, but permits of motion. 5. Throw powder into funnel, and, if necessary, ram into capsule with rammer. 6. Move next hole under funnel, and proceed until all are filled. 7. Proceed to cap first filled capsule, which will have been lifted from its pocket by the incline. 8. Press cap well down and lift out the filled capsule. 9. Continue to push the slide along until all are capped and lifted from the pockets.

For capsuling pills:

1. Fill slide with empty capsules. 2. Divide the mass into number of pills required, and place one in each capsule. 3. Place slide in base, and discarding funnel, run it over the incline. 4. As each capsule rises, cap and lift it out. If hands are kept clean, no taste of the drug will appear on outside of capsule.—*Pharmaceutical Progress.*

Treatment of Dandruff.

The following suggestions are sent by correspondents of the *British Medical Journal.* P. M .S. suggests the following ointment to be applied to the roots of the hair every night for a fortnight or so.

℞	Ung. hydrarg. nitr.	ʒ j,
	Vaselin	ʒ vij.

The hair to be cut short and well brushed every morning.

R. T. suggests the following ointment used as a pomade:

Red oxide of mercury	
Ammoniated mercury	āā 10 grains.
Spermaceti ointment	one ounce.

Dr. H. Laird Pearson writes: "Personal experience enables me to recommend the following:

℞	Hydrarg. perchloridi	ʒ ss,
	Glycerin	℥ v,
	Eau de Cologne	℥ v,
	Aq. ad	℥ xx.

M. Ft. Lotio No. 1.

℞	Beta-naphthol	ʒ ij,
	Alcohol ethylic	℥ xx,

M. Ft. Lotio No. 2.

℞	Acid salicylic	ʒ ij,
	Tr. benzoin co	ʒ jss,
	Ol. olivæ ad	℥ x.

M. Ft. applicatio.

Wash the head thoroughly with terebene soap; rinse well and dry with a rough towel; rub in some of the No. 1 lotion and dry with a towel; next apply lotion No. 2, and allow it to evaporate off; finally rub in thoroughly a small quantity of the oily application. The treatment should be carried out daily for a month, and then every alternate day for a fortnight. The dandruff disappears in a few days, and the hair becomes vigorous and supple in a remarkably short time.

E. Mansel Sympson, M. B., writes: "I have used the accompanying formula with very good results, both in simple alopecia, and that attended, or perhaps rather caused, by dandruff.

℞	Tr. cantharidis	
	Ac. acet. dil.	āā ℥ ss,
	Sp. rosmarini	℥ j,
	Glycerin	℥ ss,
	Aq. rosæ dulc. ad	℥ viij.

Ft. lotio.

Let this be well rubbed into the roots of the hair with a small sponge or a flannel, and let special care be taken not to wash the head, for, as far as I have seen, washing only aggravates the evil. Good brushing and combing should be quite sufficient to keep the hair clean. The formula given above is slightly altered from one of the late Mr. George Naylor's."

Tannin and its Solubilities.

The solubilities of tannin, put into tabular form are as follows:

Tannin and ether forming a syrupy solution.*

One hundred parts of methyl ether dissolves 51 to 76 or more of tannin in its commercial state.

One hundred parts of commercial absolute ether dissolves 102 of tannin in its commercial state.

One hundred parts of commercial absolute ether dissolve 92 of the dried tannin.

One hundred parts of ether rectified by sodium dissolve 90 of dry tannin.

Tannin and ether forming the mobile solution.

One hundred parts of methyl ether dissolve about 9 of tannin in its commercial state.

One hundred parts of ether dissolve 2.3 of tannin in the presence of water.

One hundred parts of ether rectified by sodium dissolve 2.5 of dried tannin.

TANNIN AND OTHER SOLVENTS.

One hundred parts of cold water form a syrupy solution with 253 parts of tannin.

One hundred parts of hot water form a syrupy solution with 300 parts of tannin.

One hundred parts of rectified spirit or absolute alcohol dissolve 120 parts or more of tannin.

One hundred parts of chloroform dissolve about 0.007 parts of tannin.

One hundred parts of benzol dissolve less than 0.007.

Brine dissolves only traces of tannin. The quantity was not estimated.—B. S. Proctor, F.S.C., in *Drug Cir.*

New Soda Process.

In some experiments upon the decomposition of metallic chlorides by the electric current, it was found that products which were readily soluble in the bath, as soon as they had accumulated to a certain extent, always underwent further decomposition, but that this decomposition did not take place when the products were not soluble under the conditions in which they were formed. It therefore occurred to Professor Hempel that as sodium carbonate and bicarbonate are both only slightly soluble in a saturated solution of sodium chloride, it might be possible to obtain sodium carbonate and chlorine direct, by the electric decomposition of such a solution whilst carbonic acid gas was being passed into it (*Berichte*, xxii, 2475). This was found to be actually the case, and that under suitable conditions chlorine is given off at one side and crystals of sodium carbonate are formed at the other. In the apparatus employed, which it is stated could be made of any size, a perforated iron plate was used as a cathode and a thin perforated carbon disc as an anode, the diaphragm being a disc of abestos. Among the other special arrangements was one for the removal of the soda crystals, and another for supplying sodium in the place of that decomposed, so that the action was continuous. With a current of the strength of 1.73 ampères, produced by Bunsen elements, the separation of chlorine amounted to 0 930 gramme per hour, and it is calculated that with a dynamo, the yield per horse power, calculated as equal to 680 volt. ampères, would be 64 5 grammes of chlorine and 258.9 grams of soda crystals ($Na_2CO_3+10H_2O$) hourly.—*Phar. Jour. and Transactions*, Nov. 30, '89.

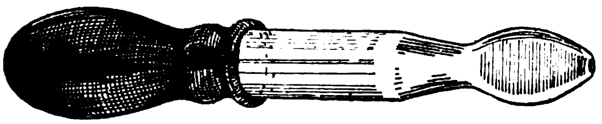
---

* Tannin is capable of forming two definite solutions with ether, the variation in strength seeming to depend on the presence or absence of water.

The Celebrated Chinese Putty, "Schio·Liao."

Under the above designation, according to *Weinlaube*, *Keramic*, and *Journal d'Epicere*, the Chinese manufacture an excellent quality of putty, which replaces a mortar at pleasure, and with which plaster-of-Paris, marble, porcelain, stone- and earthen-ware, may be cemented together. It consists of the following proportions by weight: Quenched pulverized lime, 54 parts; powdered alum, 6 parts; and fresh blood, well stirred, 40 parts. These materials are thoroughly mixed together until a thoroughly coherent mass is obtained, possessing the thickness of a salve more or less thick. In a doughy condition this mass will serve as putty; in liquid form it may be employed for application to all sorts of objects which it is desired to make waterproof and permanent. Two or three layers of pasteboard coated with it become as hard as wood. The Chinese, apply the Schio Liao to their houses, and glaze or varnish with it the kegs, in which they transport their oils and other fatty materials. —*The Pharm. Post*, Dec. 15th, 1889.

For Administering Medicines.



The above cut illustrates a new device for administering nauseous medicine, or accurately measuring teaspoonful doses of any remedial. The glass mouthpiece makes it unobjectionable and permits the patient to take the dose without raising up in bed.—*Pharm. Record.*

Pharmaceutical Progress.

DISPENSING POWDERED THYMOL.—It is recommended in the *Pharmaceutische Zeitung* that thymol, when required in powdered form, should be ground gently, and in moderate quantities at a time, in an iron mortar, as when a porcelain mortar is used the drug becomes electrified and adheres unpleasantly to paper, etc. By following this direction, it can be dispensed as readily as quinine sulphate.

COCAINE PENCILS FOR USE ON THE SKIN.—A writer in the *British Medical Journal* makes a suggestion which is easily convertible into a capital article for a cosmetic "special." It is, in short, a pencil or "stick" for use on the chafed and irritated skin, or on skins very susceptible to insect bites, etc. He says that an addition of two per cent. of cocaine to the ordinary cacao butter pencils convert the latter into a cosmetic remedy, which gives almost instant relief when rubbed over the irritated spot.

ARTIFICIAL HUNYADI-JANOS WATER.—

℞	Sulphate of potash	0 5	parts.
	Chloride of sodium	14.0	"
	Bicarbonate of soda	52 9	"
	Sulphate of soda (dried)	180.0	"
	Sulphate of lime (precipitated)	15 0	"
	Sulphate of magnesia	24.5	"
	Sulphate of iron (dried)	2.0	"

Dissolve in 10 litres of water.

To prepare an ordinary dose, put a tablespoonful of the solution in a half-pint bottle, fill the bottle half-full of water, shake and fill up with carbonated water.—*Le Progres Med.*

NEW TEST FOR ALBUMEN.—Salicylsulphonic acid has been recommended by Herr Roch, as a certain, delicate and convenient test for albumen (*Pharm. Centralh.*, Sept. 19, p. 549). The albumen is said to be thrown down by the acid as a white powder having an acid reaction, and giving with ferric chloride an intense red color. The separation of albumen from a liquid is stated to be complete, 0·0005 gramme in 10 c. c. being distinctly recognizable. In examining urine it is recommended to introduce a few crystals of the acid into a cubic centimetre of the liquid and shake, when the occurrence of turbidity may be taken as evidence of the presence of albumen, since the reaction is not affected by the presence of urea, uric acid, peptones, or glucose. —*Pharm. Journ. and Transactions.*

CHAULMOOGRA PLANTS have, it seems, been successfully introduced on the Island of Réunion by the Director of the Botanical Gardens. The trees are reported to be very difficult to propagate, and still more so to transplant. Hence the comparatively limited area over which they are found, notwithstanding the great medicinal value of the oil extracted from the seeds. Chaulmoogra oil is probably the only known remedy that will, not cure leprosy, but alleviate it; and it is to this object that the plant owes its introduction in the Réunion island. At the Exhibition, in a corner of the Colonial building, M. Potier, a pharmacist of the place, had by the side of the plain oil, specimens of chaulmoogra soap made therefrom for the convenience of application in leprosy, and skin diseases in general.

MENTHOL SNUFF.—For this article, much used in Germany as a remedy for catarrh, headache, etc., the following formulæ are given in the *Apotheker Zeitung* and *Pharmaceutische Zeitung:*

1.

Menthol	1 part.
Powdered coffee	99 parts.

2.

Menthol	1 part.
Boric acid	1 "
Powdered coffee	98 parts.

3.

Menthol	3 parts.
Boric acid	2 "
Powdered orris root	5 "
Powdered sugar	10 "
Powdered coffee	30 "
Powdered milk sugar	50 "

PRACTICAL PROCESS FOR THE EMULSIFICATION OF VASELIN AND WATER. — Mr. V. Krebs, pharmacist, Brussels, in the *Journal de Pharmacologie*, states with reference to the mixture of water and vaselin being absolutely incompatible, that he stumbled by accident on a solution of this question by the addition of castor oil to the mixture, in preparing ointments composed of vaselin and an aqueous liquid. He claims to have obtained excellent results.

Two drops of castor oil added to 1 gram of the liquid are sufficient to yield a product of perfect homogenity.

The only disadvantage of vaselin not being miscible with aqueous liquids, being thus removed, its employment will become more general, especially in the preparation of ointments containing iodide of potassium and similar substances, the decomposition of which is readily developed when mixed with other fatty substances than vaselin.

SOMNAL—WHAT IS IT?—This new hypnotic, according to the *Pharm. Centralhalle*, Nov. 14th, was designated, when first announced, as a liquid in the business circular sent out by Mr. Radlauer, of Berlin, its introducer. In the description of its properties its melting point was given as 42° C. This was evidently a contradiction. The explanation made was that the readily liquifiable somnal is placed on the market only in the form of a concentrated alcoholic solution.

The somnal, for whose manufacture a patent has been applied for, is, according to the statement of the inventor, an ethylated chloral-urethan, and formed by the action of equal quantities of chloral hydrate, urethan, and ethylic alcohol at a temperature of 100°.

Ritsert (*Pharm. Zeitung*, 1889, 675) shows conclusively that the formula for the production of somnal is open to criticism (since equal quantities, and not molecules of the individual substances, should be employed), and that the formation of a body by the formula given by Radlauer is impossible. Ritsert declares Somnal to be simply a solution of urethan and chloral-hydrate in alcohol.—ED.]

MUSSŒNDA COFFEE.—This so called "coffee" has figured largely in French literature recently. The seeds, resembling coffee berries slightly in appearance, are the product of a plant which grows in Réunion, and those who are responsible for telling the French that it could be used in place of coffee said that it contained caffeine to the extent of 0.3 to 0.5 per cent. The Kew authorities took up the matter, and requested the author to examine the seeds chemically. Previous to this, these authorities determined that the seeds were not derived from a species of Mussœnda, which is a rubiaceous plant, but from *Gærtnera vaginata*, which belongs to the *Loganiaceæ*. Mr. St. John, a Réunion gentleman, has made inquiries on the spot, and reports that the plant is not abundant, yields but few seeds, and these would be dearer than coffee. Mr. Dunstan's analysis shows that the seeds are totally destitute of any alkaloid whatever, but contain some fat, resembling nux vomica fat, and a little sugar. A full account of the "coffee" will appear in the December *Kew Bulletin.*

There was very little to say about this communication. Mr. Holmes showed botanical specimens to demonstrate that the plant from which the seeds are derived does not belong to the Rubiaceæ, but to the Loganiaceæ.—Prof. Dunstan in *Chem. and Drug.*

URIC ACID ESTIMATION.—A simple and efficient method of estimating uric acid has been devised by Drs. Arthaud and Bütte to supersede the processes generally employed, which they find either unreliable or too complicated. The reagent is to be made as follows:

	Grammes.
Sulphate of copper	1 484
Hyposulphite of soda	26 00
Rochelle salt	46.00
Distilled water, sufficient for 1 litre.	

The effect of the hyposulphite is to turn the cupric into a cuprous salt, the excess of hyposulphite serving to prevent reoxidation. The Rochelle salt tends to make the reagent more stable, and to hinder the formation of a sulphide. According to calculation, 1.484 grammes of the copper salt will precipitate 1 gramme of uric acid. Hence each c. c. of the reagent will throw down 1 milligramme of the acid. The test is applied as follows: The phosphates of the urine having been separated by means of sodium carbonate in excess, 20 c. c. of the filtered liquid are taken, and transferred to a beaker. The reagent is now added from a graduated burette, with the usual precautions; and when the curdy, whitish precipitate ceases to form, note is taken of the quantity employed. The test will show as little as 2 milligrammes in 100 c. c. of distilled water.—*Chem. and Drug.*

Distinctive Characters of Exalgin and Strychnine.—Exalgin when in the shape of fine needles, may easily be mistaken for crystallized strychnine; the two substances are distinguishable by the following comparison of properties (*Jour. de Pharm. et de Chimie*):

EXALGIN.	STRYCHNINE.
Odor of raspberries—developed by heating.	Odor slightly ethereal.
Taste not bitter; anæsthesia of the tip of the tongue.	Very bitter; no effect on the tip of the tongue.
When triturated in a mortar, exhales a slight odor of raspberries.	When triturated, smells like freshly baked bread.
Throws down no precipitate with a solution of tannin.	Throws down a flaky precipitate with a solution of tannin.
When a few crystals are placed on a porcelain plate, together with a minute crystal of permanganate of potash, by moistening them with a little water and adding 2 drops of pure sulphuric acid, a brown coloration is obtained, which fades away without changing.	With the same reagents, strychnine exhibits an orange-yellow coloration, changing to brick-red.
If a few crystals are exposed on an iron spatula to the flame of a Bunsen burner, they take fire like camphor, burning away without residue, and with a smoke which irritates to coughing.	Strychnine crystals set on fire in the same way, crackle and scatter; they yield a smoke which affects the throat and is bitter; what is left on the spatula resembles varnish, and is colored like caramel.

The foregoing table will be found very convenient for the purpose indicated.

Ricin the Poisonous Constituent of Castor Beans.—Stillmark has concluded from a recent series of investigations made by him (*Arbeit. d. Pharm. Inst. Dorpat.*) that the poisonous principle of the castor oil beans is an albuminoid body, identical with that separated by Sydney Martin from the dried juices of *Carica papaya* and by him named beta-phytalbumose. This substance Stillmark calls ricin, and he states that it may be obtained as follows: Take thoroughly pressed well peeled castor oil beans, powder and percolate with a ten-per-cent. solution of sodium chloride. Saturate the clear percolate at the ordinary temperature with both sodium and magnesium sulphate, and set in a cool place. The sulphates then separate out in large crystals and at the same time a white precipitate occurs; collect this precipitate, place on a dyalizer, and change the water frequently for six days. Remove the residue, dry over sulphuric acid, and reduce to a powder. This substance is now white. It is one of the class of unformed ferments, and therefore readily decomposed. It is a powerful poison, coagulating the blood with which it comes in contact, and thus causing through a blocking of intestinal capillaries, thrombosis and ecchymosis. The lethal dose for a man is estimated at 0.18 gram., which quantity may be contained in but 3 grams of the peeled beans. Experiments with nine other species of ricinus indicated the presence of a similar, if not identical, substance in all of them.—*Druggists' Circular*, December, 1889.

Zinc Mercuro-Cyanide, Lister's New Antiseptic.—Dr. B. Dott writes to the *Pharmaceutical Journal*, November 23, 1889, with reference to Lister's new antiseptic as follows:

The new-comer is the so-called double cyanide of mercury and zinc, with which the distinguished surgeon has obtained excellent results in his practice. It has been ascertained that the salt employed by Sir Joseph has not the composition of the normal double cyanide,—that it contains a much smaller proportion of mercury,—and it has therefore been handed over to competent chemists for investigation. The result will be interesting, and assuredly the exact composition of the salt can only be determined by careful analysis. There are, however, some general remarks which it may be permissible to make before the appearance of the report referred to. In the first place, it is an almost invariable rule that when a soluble and an insoluble cyanide or iodide unite to form a double salt the product is soluble. It is, therefore, not surprising to find that the new antiseptic salt, which has been prepared in presence of, and been washed with, water, consists essentially of zinc cyanide. The product is not, indeed, a double salt at all. We know that oxide of copper which has been precipitated by caustic soda retains a certain amount of alkali which cannot be washed out, so in like manner the cyanide of zinc may retain a small proportion of mercuric cyanide. If the double cyanide is really formed in the first instance, it is certainly almost entirely decomposed by the subsequent mixing with water. It is just possible that the mercury is not present as cyanide, but as oxysalt or oxide, especially if an alkaline double cyanide is used at the outset. It might be worth while to try the antiseptic value of zinc cyanide mixed with a small proportion of mercuric oxysulphate, and thereby ascertain if such a mixture is not of equal value to the so-called double cyanide.

Glycerin Enemata—Glycerin Suppositories.—Owing to the prevalence of habitual constipation and its dire effects on the human economy, any plan which promises relief of a permanent character is sure to find ready use. The explanation given of the purgative effects of glycerin was the production, through its affinity for water, of a hyperæmic condition of the lower intestine, and through reflex action an increase of the peristaltic action of the bowels. But however we may explain its action, certain it is that its use is attended with the most gratifying results. Though first suggested only about two years ago its use has been greatly extended and a literature favorable to its further employment has rapidly accumulated. The chief difficulty attached to its use was the method of application, and pharmacists were called upon to overcome this if possible. As a result suppositories were devised and numerous experimentors have offered suggestions thereon, each claiming superior efficacy for their product. The writers on the use of glycerin enemata and glycerin suppositories in habitual constipation have been numerous, and all bear testimony to their value. To obtain good results it is essential that glycerin should be anhydrous, though in some exceptional instances where excessive burning and intestinal irritation is produced, the glycerin may be diluted and its purgative action still be retained. The amount required is from one to two drachms, though the smaller amount is usually sufficient. It produces prompt action, rarely requiring more than five or six minutes to operate, though the suppositories are somewhat slower but quite as effectual as the injections. In order to obtain the most lasting effects it is best to use them at a regular hour each day. They are well adapted for the treatment of the habitual constipation of pregnant women, also in infantile constipation. When the accumulations of fæcal matter are in the lower part of the large intestine the best results are obtained; in accumulations in the smaller intestine or in the upper part of the large intestine they are of doubtful value unless pains be taken to introduce the medicament high up in the organs. The evacuations are rarely liquified or greatly softened being usually expelled well formed.

Generally more than one stool is produced and unpleasant consequences as stinging, burning, and other intestinal irritation, are rarely noted; it is both affirmed and denied that constipation follows its use.

GLYCERIN SUPPOSITORIES.

The therapeutic effects of glycerin suppositories are those of the glycerin. The kind chiefly employed are made from a peculiarly hard soap known as dialyzed stearin soap. Endeavors have been made to introduce gelatin suppositories but from the insolubility of gelatin in glycerin, water is required to be present and this results in impairment of their efficacy. It is a frequent source of perplexity to practitioners that the soap suppositories exercise their purgative action without noticable loss of substance. Complete solution of the suppository in the rectum is not necessary, as experience has proven. That osmosis however takes place, and the glycerin exudes and escapes rapidly, can be seen from the handling, and also by suspending a suppository in water by means of a pin. The downward flow of the glycerin will be readily seen owing to the difference in density and refractive power of the glycerin and water. The hygroscopic nature of the glycerin requires that they be protected from the air as thoroughly as possible. The use of the suppositories is precluded in certain forms of inflammatory conditions of the intestinal tract; but such contra-indications are evident to an observing physician.

ALTERATIONS OF MORPHINE SOLUTIONS.—M. Lamol, of Anvers, finds: 1. Solutions of pure morphine in pure distilled water, when protected from the light and ingress of atmospheric dust, remained unaltered for an indefinite period. 2. The source of alteration in such solutions is micro-organic, which produce (*a*) a yellow discoloration due to the decomposition of morphine into an amorphous substance, apparently the morphetine of Murchand (*b*) the formation of crystals due to oxydation of morphine into oxymorphine; (*c*) an acid reaction due to the morphetine and salts of oxymorphine,

Notes and News.

A NEW DANISH PHARMACOPŒIA is now on the stocks. A Commission has been appointed to prepare it, consisting of three doctors of medicine two of whom hold professional rank, one professor of a non-medical science, and three pharmacists. In order to harmonize the text of the new Pharmacopœia as much as possible with that of those of the other Scandinavan nations, delegates from Sweden and Norway have been invited to assist in the preparation of the groundwork.

A PUZZLING INSCRIPTION.—Those who have read "Pickwick Papers," may remember the wonderful discovery made by the illustrious Pickwick, which being finally interpreted by the Pickwickian Association, was construed to be: "Bill Stubbs, His Mark." An inscription equally puzzling in character has been discovered by a Detroit daily contemporary, which we quote in our contemporary's choice language:

"An urn of peculiar and evidently ancient design has been handed me for inspection. It is evidently an interesting relic of bygone ages, having been brought to this country by a traveler in Egypt. A blurred inscription on the base has been deciphered as follows: '*Iti sapis potanda bigone.*' An interpretation of this might throw some light on its origin. Probably some of the readers of the *Tribune* may be able to furnish some information on the subject."

THE LATEST PHASE ASSUMED IN THE MAJOR-THIEMANN LITIGATION.—Another chapter in the long series of legal difficulties between Alphonse Major, of "Major's Cement" fame, and George Thiemann, his former employe, was heard recently in the Gates Avenue Police Court, when Thiemann's examination on Major's charge of perjury was begun before Justice Kenna. Thiemann, was sued in the City Court a year ago by Mrs. Major, to recover a mortgage that she claimed he had fraudulently obtained from her. The mortgage was for $2,000, and was assigned by Major to his wife, through Thiemann. On the trial of that action, Thiemann, swore that he had never signed the assignment to Mrs. Major, and that he knew nothing of it. Major, accuses him of perjuring himself in this connection, as he said he witnessed him affix his signature to the document in question in the office of Stephen Ditchett, a Notary Public, at No. 2 New Chambers Street, New York. —*Brooklyn Daily Times*, Dec. 24th.

HAIR-WASH.—In the July number of the *Ther. Monatsheft* (under "Practical Notes"), Prof. Liebreich emphasizes very properly the fact that it would be desirable if, in view of the visible progress made by hygienic dermatology of late, instead of employing preparations invented and manufactured by barbers, such were prescribed by physicians and prepared in apothecary shops. In such cases where it is desired to free from fat and oil the hair and skin which is overactive in secretion, and where the contact of air and water must be avoided, as is especially the case with women who through the gradual drying of the hair would catch cold, he recommends a mixture of 50 0 grammes spts. ether and 5 to 7 grammes tincture benzoin, with the addition of any aromatic oil. This mixture, as it is very volatile, should be tightly sealed, and as it is readily inflammable, should not be used in the neighborhood of a burning light or lamp. The application may be made several times a week, and seborrhœa capitis will be thus cured. If the hair becomes too dry from the use of this remedy, it is discontinued for a time, or else pomades free from rancid fats, are employed.—From the *Archiv. der Pharmacie*, Oct., 1889, p. 930.

THE SOLDERING OF PLATINUM CRUCIBLES.—According to the seventh provision of the Pharmacopœia each apothecary is required to possess a platinum crucible. After employment for some time in the laboratory, these crucibles exhibit small holes, looking as though caused by needle pricks. This can be remedied by the use of gold thread and solder with the aid of hydrogen gas, which requires great skill. Pratt employed perchloride of gold, which is converted under the action of heat into a protochloride combination, then, at a higher temperature losing all its chlorine, and leaving the metallic gold behind. The process is as follows:

Several milligrammes of gold chloride are placed over the hole to be filled, and heated to the melting point of the salt, about 200°. On further heating the gold is reduced to a metallic condition. The pencil of solder is then applied to the lower part of the crucible and worked over the part to be soldered, when the gold melts. A very handsome solder is thus formed. This process is repeated several times until the repair is perfect. In this manner, the chief difficulty of ordinary soldering is avoided, viz., the necessity of holding the gold thread for a long time in a level position.—"*Journ. de Pharm. et de Chimie.*" *Pharm. Post*, page 814, Nov. 10th, 1889.

DOWST'S AUTOMATIC TELEPHONE TOLL COLLECTOR.—Druggists, and other owners of public telephones, have been sorely annoyed for all these years by the telephone nuisance, caused by the great willingness of everybody to make use of the instrument, combined with the still greater willingness to "beat" the owner out of a well-deserved dime. Druggists have all been sighing for relief, or, at least, some plan by which the justly due ten cent coin might be juggled into their tills, until at last Mr. Dowst, of Chicago, has come to their aid with his automatic toll collector. This device, very simple in construction, is a dime variation of the "drop-a-nickel in-the-slot" idea, relieving the proprietors from the often unpleasant duty of reminding the user of the 'phone, especially if a lady, or a regular customer, of the customary ten cent charge. The neatly nickel-plated instrument is fastened in front of the receiver, with a card attached informing the expectant user that in order to use the 'phone, he (or she) must first drop a dime into the slot in the upper right hand corner, when the little shutter covering the mouthpiece of the receiver may be raised, and conversation proceeded with as usual. The entire apparatus being hinged, the proprietor, by means of a simple secret device, may throw it aside, thus enabling him to use his 'phone without having to drop in the dime.—*Western Druggist.*

TO DISTINGUISH RED WINE FROM COLORED.—The following reaction will serve the purpose:

1. Mixed with an excess of plumbic acetate, we obtain in the natural red wine a bluish-green precipitate; in wine colored with mallow flowers, a dark-green precipitate.

2. Mixed with sulphate of aluminum and carbonate of ammonia in excess, we obtain with the natural red wine a gray-blue precipitate; in wine colored with mallow, a gray-green.

3. Heated with five to six times its volume of a concentrated solution of ammonia alum, natural red wine is but slightly changed, while wine colored with mallow becomes dark violet.

4. If 50 c. c. of wine mixed with 5 c. c. of pure, colorless, conc. nitric acid, are slowly heated to 90° C. on the water bath, the color of the natural red wine will not be affected for the first 15 minutes—often, not for a much longer time, while the color of wine dyed with mallow is destroyed even at a temperature close to 80° C. [It is, however, to be remarked that the coloring matter of older natural red wines is modified in such a manner that it will likewise be destroyed by heating with nitric acid in the way suggested, and this reaction can only lead to a certain result when employed in connection with the foregoing.]—*Zeitschrift fuer Nahrungsmittel-Untersuchung und Hygiene*, p. 204, Sept., 1889.

MEDICAMENTOUS ERUPTIONS.—In his inaugural thesis for the Doctorate, under the title of "Medicamentous Eruptions," Dr. Deschamps thus summarizes the common characters and the course of the eruptions which may follow the administration of a medicament. Among the medicaments the employment of which may determine erythematous eruptions, the list is headed by copaiba, then follow belladonna, sulphate of quinine, turpentine, stramonium, proto-iodide of mercury, bromide of potassium, syrup of poppies, the preparations of arsenic, etc. Those which produce vesiculous affections are bromide of potassium, the alkaline iodides, cubebs, santoninate of soda. Those which give rise to pustulous affections are the iodides, arsenic, bromide of potassium. The papulous affections are produced by Fowler's arsenical solution, and by hydrochlorate of morphia in hypodermic injections. Bullous affections are produced by copaiba and sulphate of quinine. Hæmorrhagic affections are produced by sulphate of quinine and iodide of potassium. It may be seen from the above enumeration that the same medicamentous substances may give rise to different cutaneous affections, whence it may be be concluded that the effects which are always due to the same physiological procedure, viz., the elimination of the medicament by the skin, vary a good deal as regards the different forms of eruption, according to the aptitudes of receptivity of individual idiosyncrasies. It goes without saying that the treatment of these eruptions should consist in the momentary cessation, or at least in the diminution, of the doses of the medicament, its suppression not being effected always without grave inconvenience.

DRUGGISTS' BULLETIN

A MONTHLY EXPONENT OF

PHARMACEUTICAL PROGRESS AND NEWS.

VOL. IV. No. 2. DETROIT, MICH., FEB., 1890. {$1.00 a year. Single copies, 10 cents.

THE DRUGGISTS' BULLETIN.

ISSUED MONTHLY.

EDITOR:

B. W. PALMER, A. M., M. D.

COLLABORATORS:

PRACTICAL PHARMACY.

J. LE ROY WEBBER, PH. G., H. F. MEIER, LEON C. FINK.

CHEMISTRY.

F. A. THOMPSON, PH. C., J. B. NAGELVOORT, PH. G.

BOTANY AND MATERIA MEDICA.

H. H. RUSBY, M. D., G. SUTTIE.

PHARMACEUTICAL APPARATUS AND INVENTIONS.

J. B RUSSELL, PH. G.

GEO. S. DAVIS, Publisher,

P. O. Box 470, DETROIT, MICH.

Articles designed for insertion in THE BULLETIN, subscriptions, advertisements, and all communications should be addressed to the publisher.

Editorial.

VITUPERATION VERSUS SCIENTIFIC PROGRESS.

The experience of the past in the development of all trades, arts, and sciences, has demonstrated that the majority of the human race are strongly opposed to adopting any new methods relating to their vocation which involve a departure from those they have been accustomed to. This tendency has, without doubt, delayed advancement in all occupations.

If many of the improvements of the present day, which are now indispensable to the comfort and safety of all civilized people, had been suggested in mediæval times, their authors would have suffered persecution and death at the hands of the populace.

Such superstition and ignorance can have no place in this nineteenth century, among civilized nations, though there still remain benighted speciments of this class of opposers of progress, who exhibit their spleen whenever a question of progress is under discussion. In this class we must number the author of the article we print below, which appeared in the editorial columns of the *Western Druggist*, January, 1890. We are inclined to think that the writer of this must have been suffering from the melancholy incident to an attack of *la grippe*, though we suspect that this tirade against standardized preparations comes from the business manager, whose venom may be inspired by the fact that the manufacturing chemists who were the first to meet the requirements of physicians and pharmacists for standardized preparations of toxic and narcotic drugs did not advertise in his journal.

Whatever may have been the motive, the article itself, we think, will on perusal show itself a scurillous, attack on standardizing pharmaceutical preparations of toxic and narcotic drugs, the active medicinal principles of which have been discovered, and which are adapted for standardization, and expressing grave and wilful ignorance on a most important subject to pharmacy, medicine, and the preservation of human life, without a reliable argument against standardization. But we will let the article condemn itself:

"STANDARDIZATION" AND A REVOLT.

It will no doubt be refreshing news to the medical and pharmacal profession to learn that they are dealing death and destruction, instead of relieving pain and suffering and curing disease, and to learn further that the use of such drugs as coca, belladonna and jaborandi, unless in the form of "standardized preparations," will have "the virtual, however unintentional object of the destruction of human life." A Detroit organ, "looking nakedly into the position" of those who oppose the introduction of standardized preparations in the Pharmacopœia, comes to the above conclusion. It further believes "that when it has been shown to the great body of American pharmacists that the use of these uncertain and irregular preparations is annually bringing bereavement and desolation to great numbers of homes, they will not hesitate to make so beneficent a reform accord with their convenience." The mendacity* of these utterances is such as have no place in a scientific journal, and should be ignored but for their insinuating persistence. Coca and jaborandi have long been remedies of high repute in Central and South America, but we have not heard that their use in the vulgar, unstandardized form has caused much devastation to life or home in those countries. The remedies, as employed here, though not standardized, have

---

*As to mendacity of statement, our lively Chicago vituperator has, in selecting his list of those drugs proposed for standardization, forgotten to mention aconite, conium, ergot, gelsemium, foxglove, henbane, and others, which have frequently proved actively toxic from lack of standardization.—Ed.]

had no particularly murderous record. The utter sophistry[†] of the "standardized idea," and the shallowness of the arguments of some of its advocates, were well illustrated in a recent incident in which a Detroit apostle, after dilating upon the standardized idea, was confronted with the challenge that no twelve chemists would attain, even approximately, the same results in the assaying of twelve specimens of the same lot of drug of a character for which standardization was sought.

Aside from opium, cinchona, and possibly nux vomica, there is no need for standardization in the U. S. P. 1890. The qualified physicians and pharmacists do not regard it as desirable; the opinion of amateurs, "pen chemists" and traders have but little consideration, whilst the scientific men are conservative and abhor sham and hypocrisy. Standardized preparations mean such preparations as can be made only by the large manufacturers; it means the annihilation of the retail druggist as the maker of the preparations he sells, and his utter subjection to a manufacturing monopoly. It means his further degradation to the rank of a mere peddler of ready-made goods and the glorification at his expense of the "standardized" monopolies. Let the Pharmacopœia 1890 sanction such an outrage and its rejection by the pharmacists of America would be so prompt and universal as to make it within a year after publication simply an object of distant curiosity. It has neither necessity nor justice to commend it; it is an inspiration of rampant greed by Shylocks, who demand their pound of flesh from a profession already weakened by industrial conspiracy and tyranny. "Standardization" means an overwhelming revolt.

UNIFORM PREPARATIONS FOR THE PHARMACOPŒIA.

Under the title "Proprietary Articles or Uniform Preparations for the Pharmacopœia—Which?" and *apropos* of the approaching revision of the Pharmacopœia and the active discussion of the various claimants for recognition in this work, Dr. H. H. Rusby recently read a paper before the Philadelphia County Medical Society. This paper we note has been widely copied by journals so representative of medical and pharmaceutical opinion as the *Medical Record* and the *Druggists' Circular* of New York.

While the wide circulation the facts presented in this paper have already had, and the previous expressions of opinions published on this topic in the BULLETIN make the reproduction of this article in its entirety unnecessary, we desire to submit for the thoughtful consideration of our readers some of the facts and arguments advanced therein regarding the necessity for standardization. While the paper was addressed to a medical audience, the subject is one which is of equal interest to pharmacists:

"Which one of you who has practiced physiological experiment would not deride the physiologist who would administer an experimental dose of the strength of which he did not have an idea which approached nearer than within two hundred or three hundred per cent.? If the distinguished physiologist of the University of Pennsylvania, or he of the Jefferson Medical College, were to read a paper on the action of some new alkaloid in which he should inform you that certain symptoms had succeeded the administration of one, or two, or three centigrammes, or thereabout, what an audible smile would go up from every part of this room; and yet you, when administering to your patient a uniform measure of a pharmacopœial preparation, are doing just exactly this thing. The dose which your patient at Tenth and Walnut streets is receiving in a drachm of a given tincture may be two or three—yes, even six or eight—times as strong as that with which you are treating him at Nineteenth and Race streets. Not only, gentlemen, do I say it may be so, but I tell you that it is more likely so than otherwise. I doubt if you, as a class, are well aware of the irregularity in strength of the preparations ordinarily dispensed at the prescription counter. The Pharmacopœia prescribes that for the manufacture of a pound of the fluid extract coca, a pound of coca leaves shall be used. If, instead of this, it directed that any amount from one to three pounds were to be used, according to the inclination of the pharmacist, what would you think of its value as an authority? Tell me, then, what is the difference between using one to three pounds, and using a single pound whose strength is allowed to vary between one and three hundred per cent.! It is certainly true that a pharmacopœial rule for the manufacture of fluid extract jaborandi, for instance, by the use of a specified amount of leaves of a strength ranging between the ratios of one and three, is strongly, totally, effectually antagonistic to the efforts of the physician in treating the disease to which it is applied. I hold that, if such direction were to read, "from one to three pounds of leaves, according to their strength," such direction, however indefinite and absurd it might be, would be infinitely superior, in the results which it would produce, to the directions as they now stand. However ignorant any pharmacist may be as to the effect of the administration by a physician to a dozen patients of a dozen doses supposed to be equal, but in reality varying widely, it is positively certain that a competent physician is not at all ignorant upon this point. And certain it is, also, that that portion of pharmacists who are contending for the right to compel the physician to work with such dangerous preparations at his own risk, the pharmacist himself being protected by pharmacopœial permission, ought to secure nothing else than the hostility of such physicians. But, you ask, do our ordinary crude drugs vary to any such extent? I doubt if there are more than a dozen persons before me who have any approximate conception of the wide variation in quality and strength of the drugs from which the preparations of the Pharmacopœia proceed.

[†] As to sophistry of statement, the fact, if admitted, that the assaying by twelve chemists of twelve specimens of the same lot of drug would not obtain the same result, is rather a reflection on the chemists than on assaying fluid preparations of toxic drugs. Indeed, it is well known to those of the slightest experience in assaying, that different portions of the same lot of crude drugs may vary greatly in percentage of active principle, and it is by standardization that this variability is guarded against.—Ed.]

Two conditions of such variation confront us. The first I have already indicated in the tendency on the part of a great many practicing pharmacists to work with the cheaper article, when—as is usually the case—money is to be made by so doing. Through this lack of principle alone, hundreds of tons of drugs are annually used which are nearly—perhaps absolutely—inert. Let me read another extract confirming my statements concerning the unscrupulous nature of many pharmacists. Commenting on a sale of drugs which took place in London on June 30th, the *Chemist and Druggist* says: "Cumin seeds at 5s., gum elemin at 3s., and Curacoa aloes at 16s. per hundredweight were only a few of the unparalleled bargains. There were jaborandi leaves that might profitably have been passed through a wringing-machine; 40 bales of senna at $\frac{1}{32}$ of a penny per pound; areca nuts at 1s. per hundredweight; and, finally, 66 pounds of scammony at 3d. per pound."

These drugs, gentlemen, were purchased by pharmacists for the purpose of being made up into pharmaceutical preparations; and there is not the slightest reason why a portion of them should not have been dispensed upon the prescription of some of you. Will you not, then, see to it that the proceeds of a similar sale in June, 1890, shall not find their way into the hands of your patients.

Secondly, we have to consider that many pharmacists who are disposed to deal honestly are careless, or even incompetent, in selecting the better of two samples.

Lastly, and the clinching argument in the discussion, be the pharmacist ever so honest, capable, and careful, it is in many cases an absolute impossibility for him to ascertain, from its appearance, the imperfection of a given sample. We cannot, and we need not, here consider in detail the conditions on which such variations depend. But I will mention that I have myself demonstrated that in the case of coca-leaves very wide variations in strength are caused by age of plant, degree of maturity of leaf when picked, soil, altitude, and mode of drying, all resulting in variations which it is very difficult or impossible to determine by the physical examination of the sample.

I have here prepared a list showing the degree of variation in some of our most important drugs, with the average strength which ought always to be secured. It is to be understood that these strengths refer to samples which on inspection would be pronounced upon the market good. If we were to include in the consideration the large amounts—constituting perhaps a majority of the total annual consumption—of crude drugs which are classed as inferior, this variation would be greatly increased.

Aconitum varies in the ratio of 3 to 5 or 6. Belladonna leaves, $\frac{2}{10}$ to $\frac{7}{10}$ per cent., or a variation of 250 per cent., with an average of $\frac{4}{10}$ per cent.; in this case it is to be noted that the poorest and the best leaves were absolutely identical in appearance. It is also to be noted that such vast differences are very generally caused simply by the quality of the weather during the season when the leaves were produced. Colchicum root, .4 to .52; colchicum seeds, .5 to .9—average, .7; conium, exceedingly variable—average, .6; coca leaves, .33 to .8—average, .6; nux vomica, 2 to 3 per cent.—average, 2½ per cent.; stramonium leaves, .25 to .45—average, .35; stramonium seed, .3 to .65—average, 45. Jaborandi leaves (where uniformity is of the highest conceivable importance) show the wide variation between .3 and 1.1 of pilocarpine, with an average of .75. Cantharides, in powder varying greatly owing to adulteration—average, 7.

In considering the above substances we are enabled to take cognizance of some definite chemical principle upon which the action of the drug chiefly depends, and which, by chemical or physiological methods may be readily estimated. There is another class of preparations, represented by zanthoxylum, buchu, and cannabis indica, where uniformity is highly desirable but cannot be secured by the estimation of such definite bodies. In many of these cases, however, we are enabled, by estimating the percentage of extractive matter yielded by some specified process, to arrive very closely at the relative strength of the drug.

Now I have said enough, I am sure, to convince you of the gravest want of uniformity in our preparations as at present defined. Considering the importance of the medicinal agents which I have named, and the extreme value of getting your patient promptly under their influence, I do not see how you can fail to be startled by observing the manner in which your best efforts are handicapped. At present your only guide to the strength of a preparation lies in its trial, and by the time you have established your dose your case may be lost. Yet you must thus establish your dose for each of your druggists, and every time he changes his stock—a sheer impossibility.

Am I not safe in saying that a medical practice which has no more reliable basis than our present method of supply is not better than semi-barbarous? Do not wonder, gentlemen, at the great number of failures which attend your treatment, and the irregular results which follow the administration of your medicine, but, when you remember that in a row of fifty consecutive drug stores the same preparation exists in forty different strengths, ranging from twenty-five to one hundred and fifty per cent., wonder, on the other hand, that you have done one-half so well as you have, and never permit anyone to say in your presence that medication at its best is unreliable or uncertain. Let us take the lesson to heart and resolve that, as the remedy for the evil is so close at hand, we will apply it, and render in the year 1890 a greater service to medicine than has resulted from any convention which has preceded it. A long step may be taken at once, and if it be taken vast progress will follow in the next ten years. If this step be not taken in 1890, perhaps if you do not act to-day, the year 1900 may find us in the same disgraceful position that we now occupy.

Do not wait for your pharmaceutical brethren to institute this reform. Many of them stand ready and eager to help you. But for the most part they see a hundred lions in the way. While some of these lions may be fierce and strong, it is not for us to contemplate the situation. We are informed that not all our drugs admit of assay; but let us assay such of them as we can, and hope and work for such a knowledge of the remainder as shall shortly bring them within the same category. The pharmacist tells us that it does not pay him to assay his drugs for the preparation of the small lots that he is to manufacture; but what is that to us? It means simply that it is inconvenient for him to do justice to us and to our trusting patients. As well might the highwayman plead against a law forbidding murder because it will deprive him of an easy opportunity for transferring $3,000 to his purse. The pharmacist, gentlemen, is the caterer to our profession, and it is our business to make all reasonable demands upon him, and his business to concede those demands, or to stand aside and let another who is willing, for of such there is an abundance. The plea of the practical pharmacist in this matter is based upon the assumption that the primary object and design of medicine and pharmacy are for his emolument! We, on the other hand, have always recognized that it is the relief of suffering mankind, and that considerations of gain are secondary and incidental. But the use of these uncertain and irregular preparations is annually bringing bereavement and desolation to great numbers of homes. Looking upon the facts nakedly, we can only see that the position which we are here condemning is one whose virtual, however unintentional, object is the destruction of human life. This being true, we are lead to inquire upon what claim the justice of such recommendation is based. Merely this—and I challenge any of my hearers to bring forward in plain and concise language any other —it is inconvenient at the present time for pharmacists to satisfy the requirements of justice and humanity. When we have once reduced the argument to this, we shall not combat it, but leave it to die the death which its shamelessness must invoke. If it is really true that after half a century of such a pharmaceutical education as our country has afforded, and which has brought the profession here confessedly to rank first in the world, our pharmacists are incompetent to assay a few preparations after specified formulæ, then the fact is a most disgraceful one, and there is not the slightest hope that after another half century the case will be markedly different. But, emphatically, it is *not* true. If it be once admitted—which no well-informed person can deny—that one drug, for instance, if you please, erythroxylon, varies, in the strength of well-appearing commercial samples, between the ratios of one and two, that is to say, to the extent of one-hundred per cent., and that our present method of preparing a fluid extract allows this wide variation to appear in the preparation, we ask nothing more. If, thereupon, the medical profession and all decent pharmacists do not insist that this element of irregularity shall be eliminated, then do I entirely mistake the American character.

Progress does not require that prudence shall dictate. But when it has been proven that coca, belladonna, and jaborandi leaves of good appearance vary widely in medicinal power, and that in the case of these particular drugs regulation of the strength of their preparation is perfectly feasible, we do not see how there can be any honest objection raised to taking this step in the case of those specific articles. Let the other hundreds of pharmacopœial substances stand on their merits. If it be proven that three, or six, or twenty, or only one substance admits of thus being taken out of the category of possible death-dealing or death-permitting agents and placed among the certainly life-saving ones, let it be done; and at a succeeding revision let as many others be added as shall by that time have been brought within the permissible circle.

Furthermore, the claim of the pharmacist that he must thus assay each of his small lots is false in itself. Assayed whole or powdered drugs are now offered by responsible dealers, so that the retail pharmacist may readily purchase 1 or 100 pounds of a given drug of known strength.

Our advice to the physicians and pharmacists who shall assemble at Washington next May, for the revision of our Pharmacopœia, is, that they shall solidly demand and persistently insist that something shall be done by that convention in the direction here indicated. Furthermore, and what is more to the point, we fully expect that this action is to be taken, and that this demand on the part of physicians is to be ably supported by the best and most powerful element in American pharmacy and medicine.

EMLEN PAINTER.

The pharmaceutical press are united in their expressions of sorrow at the loss to the profession of pharmacy, and to his friends and family, of the late Emlen Painter.

As a representative of progressive scientific pharmacy, Emlen Painter was one of the most sincere and constant workers; and the recognition of his labors in this cause by his election as President of the American Pharmaceutical Association, and the honors paid to him, are but the just desert of his able championship, by tongue and brain, and pen of his chosen art—pharmacy.

The following biographical notes, which we gather from the notices of his death in current pharmaceutical press, chiefly from *The Pharmaceutical Record*, will inform our readers of his work and life. Many of the press notices pay an eloquent tribute to his attainments.

Emlen Painter was born at Concord, Pa., in 1844, and received his education in the schools and later at a college under the care of the Society of Friends (or Quakers). His first years in pharmacy were spent in the well known store of Charles Shivers, of Philadelphia, and he graduated from the Philadelphia College of Pharmacy in 1866. In 1867 he went to California, where for a year he was dispensing clerk with B. B. Thayer, and a year later entered into partnership with John Calvert, this continuing until 1879. Later he conducted business on his own account until 1883. During this period he was greatly interested in endeavoring to establish the California College of Pharmacy, and its success was largely due to his energetic work. He was at various times Trustee, President, and Professor of Pharmacy and Dean of its Faculty.

In 1883, owing to failure of his health, he came eastward, and not long afterward purchased the drug store at Broadway and Thirty-fourth Street, which, under the title of Brunswick Pharmacy, he conducted until recently. He was a Trustee in the College of Pharmacy of New York City during most of his residence there, giving earnest and able service. He was one of the working members on the Committee on National Formulary, in which are many evidences of his earnest labors. He represented the California pharmacists on many occasions where they would otherwise have been without representation. He became a member of the American Pharmaceutical Association in 1870, and attended some of its meetings, coming from California to have the pleasure and inspiration of its goodly gatherings. He served on many of its committees, always doing faithful and efficient work; was elected Vice-President in 1877, also in 1881, and at the recent meeting in San Francisco, June, 1889, was made its President. The papers contributed by him during his membership were of special merit and practical value. He enjoyed the confidence of all who knew him, and among his California pharmaceutical friends he was a warm favorite, and they had designated him to represent them in the coming convention for revision of the U. S. Pharmacopœia.

For several years Mr. Painter had been afflicted with a cough and other premonitory symptoms of phthisis, but his will power and energy were indomitable, and he surmounted difficulties and inconveniences in a marvelous manner. During the past year he had not been as well as heretofore, and soon after his return from the trip to California his health seemed to fail rapidly. In September last an acute attack prostrated him, and although he recovered it was with an enfeebled body. A trip to the South recently gave him no reason for encouragement, and he reached his home on Saturday, January 11th, and four days later he passed away with a bright assurance of the joys beyond. He leaves a wife and five children, but they mourn not alone. All who knew him will regret the loss of one so gifted and beloved. The funeral services were held at his late residence, Spuyten Duyvil, N. Y., on Friday, January 17th, and the interment at Philadelphia the following day.

DIURETIN-A SUBSTITUTE FOR CAFFEIN.

Of the proposing of new remedies by our German confreres there seems to be no end. It is unfortunate that their zeal does not extend to introducing the preparations commended free from the restriction of patents and trade-marks, that the public might benefit from them without paying for those that are of use the exorbitant prices these processes of protection involve.

As to whether Diuretin is to be added to the already too long list of protected remedies of foreign introduction, we are not yet informed, but presume, judging from recorded experience, that this will be the case.

To the December, 1889, number of "*Notes on New Remedies*" we are indebted for the following facts regarding this latest aspirant for American patronage:

Diuretin is the utility name for a new preparation of Theobromin, namely, Theobromin-Natrium-salicylicum.

Theobromin, a constituent of cocoa, is chemically almost identical with caffein; caffein is a tri-methyl-xanthin, and theobromin is a di-methyl-xanthin. Both caffein and theobromin act as diuretics, but the latter possesses many advantages in therapeutic application.

During this year's convention of German Scientists, at Heidelberg, Dr. v. Schroeder, of Strassburg, reported on therapeutic experiments made by Dr. Gram, of Copenhagen, at the local clinic. The results of this investigation were summarized as follows:

1. Theobromin is a diuretic whose therapeutic value is due to direct action on the kidneys, as proved by v. Schroeder for both caffein and theobromin.

2. The radical difference between theobromin and caffein, lies in the fact that theobromin does not excite the nerves, and its use is not, therefore, accompanied by sleeplessness, unrest, and similar depressant effects which are caused by caffein, and make the action of caffein uncertain and often harmful.

Theobromin is to a certain extent a caffein without its depressant nerve effect, while acting fully on the kidneys, and may therefore be termed a pure kidney specific.

3. Theobromin has effected good diuresis in kidney and heart affections, even in cases where digitalis and strophanthus failed to give satisfaction.

4. Pure theobromin is not suitable for use; it is soluble in not less than 1600 parts of water at ordinary temperature, difficultly absorbed by the system, and causes nausea.

Dr. Gram therefore recommends the use of Theobromin-Natrium-Salicylicum—*Diuretin*—the use of which he found to give no ill side-effects even when administered to very weak patients.

Diuretin is a white powder, soluble in one-half its own weight of water when warmed, and remaining dissolved after cooling. The dose is 15 grains, with a maximum total per day of 90 grains.

THE PROTECTION OF QUININE AND REDUCTION OF TAX ON DISTILLED SPIRITS.

These topics of interest to pharmacists were discussed by the Philadelphia Drug Exchange, at their meeting Jan 28th. From a report of the proceedings appearing in the "*Philadelphia Times*," Jan. 29th, we quote the following sentiments expressed by the Board of Directors as to the propriety of protecting quinine and reducing the tax on distilled spirits:

> "There should be a duty on quinine and all salts of quinine and on all the other alkaloids of cinchona bark and the salts thereof. If the policy of this government is to protect home industries these articles are as fully entitled to protection as are any others. American manufacturers of quinine have to compete with Europeans, who, by reason of cheap labor can produce at much less cost and are enabled to flood this country with their surplus product.
>
> During the fiscal year ending June 30, 1889, the amount of foreign sulphate of quinine sent to this country aggregated between 2,000,000 and 3,000,000 ounces. American manufacturers cannot export any. The harmony of the entire protection system is disturbed by the exceptional legislation applied to quinine, and no argument can be brought forward advocating free quinine that will not apply with equal force to wool, woolens, iron ore, iron and steel, potatoes, salt, coal, sugar, rice, wheat, or any other commodity largely produced in this country. Whatever system may be adopted must be equitably applied, to be consistent and constitutional, or it will not be allowed to exist.
>
> TAX ON DISTILLED SPIRITS.
>
> The present rate, 90 cents per gallon, is excessive, and the income derived therefrom is not required by the government. The rate is 4½ times that of the first war tax imposed, which was but 20 cents per gallon. The tax on alcohol, by reason of this tax on distilled spirits, is about $1.70 per gallon, equal to about six times the cost of production. In our opinion the tax should be materially reduced, if not totally abolished.
>
> A government committed to the doctrine of protecting home industries should set an example to its citizens, as the German Government does. According to the statute books goods imported for the use of the United States Government are exempt from duty. While this makes no difference to the Treasury it encourages the various departments connected with the government to give preference to the products of foreign workshops and factories, because they can obtain more goods for their appropriations by being able to purchase abroad at less cost. This is unjust to American manufacturers, who pay vastly higher wages than are paid in Europe. A doctor should not object to taking the same sort of medicine he prescribes for his patients. If protection is best for the people, why should free trade be best for the government? If cheap goods are to the advantage of the government, why are they not equally so when the welfare of the citizen is concerned? The clause stultifies the protective system and should be eliminated from the forthcoming House bill."

This report met with not a little adverse criticism. In defense of it, Mr. A. H. Jones, of Powers & Weightman, explained how the United States Government had gone abroad to purchase 10,000 ounces of quinine and remarked that the people who sustain the government in time of peace and in time of war should be sustained by the Government. He further said: "I am either a protectionist or a free trader. It is going to be a duty on quinine and on everything else largely produced in this country, or we are going to have the British system, if I can do anything towards it.

These matters, while rather of a pharmaceutico-political character and suggestive rather of that much vexed question of tariff reform, than relating to the science and art of pharmacy, are certainly of much practical interest to pharmacists from a trade point of view, and as well to the general public. Moreover, it is auspicious of favorable change in legislation affecting trades and professions unfavorably when their votaries unite to discuss existing conditions and suggest their remedy.

The result of the discussion by the members of the Drug Exchange of the report read, was a resolution providing that the annnal report be sent to the Ways and Means Committee with the request that a duty be placed on quinine, and that the tax on distilled spirits be materially reduced or entirely abolished. This resolution was adopted.

Original Articles.

PRACTICAL PHARMACY.

PICRIC ACID TEST FOR SUGAR IN URINE.

BY H. F. MEIER.

This is a most convenient test, owing to its permanency and readiness of preparation. It needs but a few moments to dissolve several small crystals or a tablet in hot water and the solution is ready for use; though it must be noted that the test is limited to qualitative determination. If the solution be now made alkaline by the addition of sodium or potassium carbonate, brought to the boiling point, and the urine added to it gradually, the presence of sugar will make itself known by the production of a garnet-red coloration due to the formation of isopurpuric acid.

As in the case of bismuth subnitrate, certain precautions are necessary before entire dependence can be placed upon the results. This is due to the fact that a few other bodies are capable of producing a similar decomposition and color effect. Of these there are known, alkaline sulphides and cyanides. Now as it happens that urine is occasionally met with, which contains sulphur in the form of sulphides or hydrogen sulphide, this would naturally produce a like coloration, though sugar were absent and no reaction could be obtained with either the indigo test or Fehling's solution.

As a reasonable insurance against false conclusions, it is best, therefore, to depend upon no single test in cases of any gravity whatever, but employ as confirmatory of either picric acid or bismuth, another one at least, be it indigo or Fehling's,

In very important cases, and especially where quantitative estimates need exact confirmation, the fermentation test is of great service, though somewhat tedious. A very satisfactory result is obtained if the urine is placed in a flask provided with an exit tube, a little good yeast added, the apparatus kept in a warm place (90°–100° F.) for a few days, or until the fermentation is over. The carbonic acid generated is received in another flask for the purpose, into which the exit tube dips, and which contains a solution of barium or calcium chloride with free ammonia. At end of fermentation the first generating flask is heated to boiling until all carbonic acid has been expelled and steam comes over. The barium or calcium carbonate is then filtered off, and the CO_2 estimated in the usual way. The sugar is calculated thus: Found CO_2, 88 = Dextrose 180, or almost in the proportion allowing us in practice to estimate on the basis of 1 : 2.

Lastly, to make sure of the efficiency of the yeast, a separate control tube should be employed, filled entirely full and inverted in some of the same fluid used (glucose, water and yeast) in a wider vessel. The gas generated in the tube lowers the level of the liquid contained in it.

BOTANY AND MATERIA MEDICA.

HAPLOPAPPUS BAYLAHUEN, C. GAY.

(*Hysterionica Baylahuen* [Gay], Baillon.)

BY H. H. RUSBY, M.D.

In the *Bulletin Général de Thérapeutique* of February 28th, 1889, p. 160, there appeared an extended paper by Dr. G. Baillé, entitled "*Etude Thérapeutique de l'Hysterionica Baylahuen*," which attracted at the time considerable attention. Dr. Baillé stated that Dr. Dujardin-Beaumetz had received from Dr. Cervello, of Valparaiso, Chili, a small supply of the above plant, which, he stated, possessed an especial action in certain gastro-intestinal diseases, especially chronic hæmorrhages of the lower bowel, flatulent dyspepsia, indigestion, etc. To Dr. Baillé, Dr. Dujardin-Beaumetz referred the drug for investigation, which was performed in the Therapeutical Laboratory of the Hospital Cochin, at Paris. The study was quite a thorough one, covering the botany and therapeutics, and more or less of the chemistry and pharmacy of the article. Botanically he found the plant closely related to Grindelia. Not only was this true regarding its structure and relationship, but its appearance, covered as it was with a thick balsamic exudation, reminded one strongly of those Californian plants, particularly of the *G. robusta*. From these considerations Dr. Baillé inferred that it was worth while to examine it chemically and therapeutically in the direction of Grindelia, with a view to possibly finding in it a similar composition and property. The expectation was to a certain extent realized. A substance was extracted which consisted of a volatile and a fixed oil, the latter existing in considerable quantity and possessing the same odor which characterized the plant. There was also encountered a brown, acid, viscous resin of an irritating taste, which possessed the odor of the plant, and existed in large quantity. Besides other ordinary vegetable constituents, including a little tannin, there was nothing of importance, no alkaloid apparently being present. "To this resin and oil, then," says Dr. Baillé, "we must refer the medicinal properties of the plant." Regarding such properties, his observations are given in full, and he concludes as follows:

"*Hysterionica Baylahuen*, given in infusion, is an excellent anti-diarrhœic, and has produced, in the hands of Dr. Cervello, excellent effects in the treatment of malarial and chronic dysentery. The results obtained by us in the treatment of the diarrhœa of phthisis, led us to test its employment in the diarrhœas supervening upon the course of certain cachectic maladies, as cancer, and so on. The infusion of Hysterionica perhaps permits of the continued urgent employment of a medicament like copaiba and mercury, by suppressing the diarrhœa which these occasion.

Hysterionica can perhaps replace the balsamics and other applications in the treatment of the respiratory apparatus.

Given in the form of an alcoholic tincture, this plant does not produce constipation.

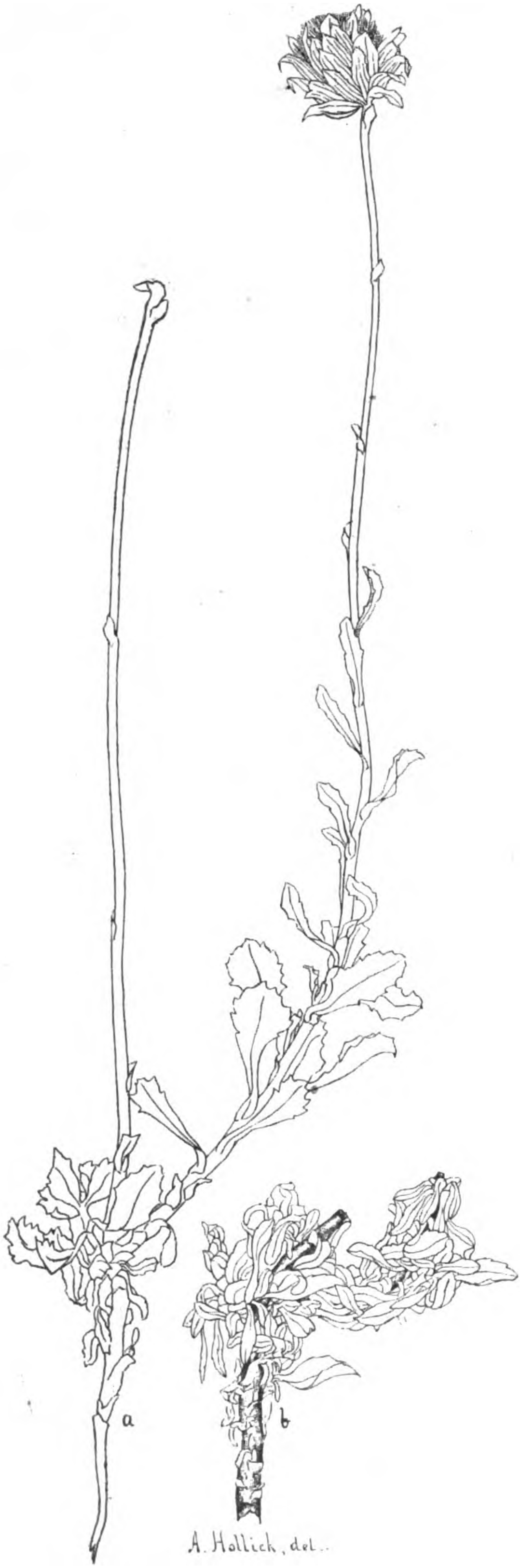
Applied to the treatment of the genito-urinary apparatus, hysterionica appears to produce the result of modifying the nature of the urine, and of diminishing the bad odor.

In the treatment of ulcers, applying its collodion to the wound gives an antiseptic covering which excludes the contact of air and of micro-organisms, and facilitates cicatrization.

The infusion has given us the best results, and it is in the infusion that we advise the use of the hysterionica."

Messrs. Parke, Davis & Co., were requested by physicians who had read these accounts, to furnish a preparation of the drug; but with their accustomed care in the adoption of new remedies recommended in current literature, they desired, notwithstanding the high character of Drs. Cervello, Baillé, and Dujardin-Beaumetz, who had written upon this drug, to exclude all possible mistake, and requested that I would thoroughly investigate its origin. Knowing the plant to be a very rare one, in fact never previously collected by botanists but once, and represented in scientific collections in the entire world by only a half a dozen incomplete specimens, I first decided to make myself positive that it was the genuine Haplopappus Baylahuen of Gay, which had been employed. For this purpose I wrote both to Dr. Cervello and to the distinguished Chilian botanist, Dr. R. A. Philippi, requesting information concerning the plant. The latter gentleman confirmed my opinion that the plant was almost unknown to science, and had not been collected for a great many years. He further stated that this collection was made in a very remote portion of Chili, with which there was no communication, and he counseled caution in adopting conclusions concerning it. From Dr. Cervello no reply was obtained. I then determined to write to Dr. Dujardin-Beaumetz calling his attention to my suspicion, and requesting him to re-investigate the subject. In a polite note he informed me that he had referred my letter to Dr. Edouard Egasse, requesting that he would make me a reply, and if possible send me a sample of the drug. By the latter gentleman I was informed that he was very certain of the accuracy of the determination of the drug; that he had not only carefully examined it himself, but that he had referred it to the great Dr. Baillon, and that the determination was, in effect, that of the latter gentleman. This fact at once satisfied me that there could be no mistake, not only because of the unexcelled reputation of Prof. Baillon as a botanist, but because of the fact that he was specially familiar with the extant specimens of the plant in question, having made a particular study of them, and decided therefrom that the plant represented a genus sufficiently distinct from Haplopappus in which it had already been placed by Gay. With this testimony, however, sufficient as it was, the evidence did not rest; for Dr. Egasse was generous enough to send me a liberal specimen from the small stock in his possession. This specimen, compared in the most thorough manner with the descriptions of the plant, and with a specimen in the Columbia College Herbarium, tallied exactly; so perfectly, in fact, that one might have supposed that the specimens were from the same plant, and had together furnished the description. So far, then, there can be no mistake.

Upon tasting the drug, however, I was at once startled by the astonishing similarity between its savor and the peculiar savor of the drug pichi, which I had previously found growing in the same region from which the Hysterionica had been obtained. The exceedingly resinous appearance of the plant, looking, as Dr. Baillé has well expressed it, as though it had been dipped in resin, taken in connection with the remarkable similarity in taste between this drug and pichi, awakened in my mind a fresh suspicion, namely that some collector had dipped the plant in the extracted resin of pichi, thus im-



Explanation of Cut.—Haplopappus Baylahuen, Gay, reduced ¼. *a*, Branch with fruiting head, from a specimen in herbarium of Columbia College, collected by Gay; *b*, Fragment from a drug sample presented by Dr. Egasse.

parting to it those important effects upon the genito-urinary tract for which pichi is so distinguished. With this idea, a small quantity of the resin was extracted and was examined. Although it resembled in some of its peculiarities, the resin of pichi, yet the evidence was not conclusive, and I referred a specimen to Miss Emily Gregory, the distinguished teacher of histology in the Barnard College. Prof. Gregory made microscopical sections which developed the presence within the tissues of immense resin ducts filled with a resin identical with that found upon the surface, and sufficiently large to fully account for its great abundance. She found moreover, that the epidermis was furnished with those peculiar structures known as raised stomata. It was very apparent that these stomata, constituting the breathing pores of the plant, had become developed in order to elevate the breathing apparatus above the thick coating of resin which would otherwise have produced suffocation. There could therefore, no longer be a doubt not only that the reference of the drug to Hysterionica Baylahuen was authentic, but that the resinous exudation was its own product. The researches then of Dr. Baillé, being apparently conclusive that the plant is possessed of important therapeutic properties, I at once recommended to Parke, Davis & Co. that they should prepare a preparation of this plant. They have accordingly taken special means to obtain supplies. It appears, however, that all of the supplies originally collected have been destroyed by fire, and that perhaps a season must elapse before fresh supplies can be collected. In the meantime we present an illustration of the very fragmentary specimen preserved in the Columbia College herbarium, and beside it one of the fragments of the drug so kindly furnished me by Dr. Egasse. On a future occasion we hope to present our readers with a full report by Miss Gregory upon the interesting microscopical characters of the drug, as well as with a more elaborate account of its chemistry than that furnished by Dr. Baillé.

In only two works can we find any reference to medicinal properties inhering in this plant. The first is in the *Historia Fisica y Politica de Chili*, *Flora*, Tomo IV, p. 43, where it is stated "it grows in the high ranges of Hurdato (Province of Coquimbo). The peasants use it to cure ulcers of horses and other animals." The second is in a copy of the *Elementos de Botánica para el Uso de los Estudiantes de Medicina y Farmacia en Chili*, by Dr. R. A. Philippi, p. 324, where we read "The peasants use it in the diseases of women, and to cure ulcers of horses, etc."

As regards the generic disposition of this plant, I am obliged to differ from our friends in France, who would place it in the genus Hysterionica. Prof. Baillon says (*Dict. de Bot.*): "In this genus, which contains about 135 species, we have comprised (*Hist. Plant.*, viii, 155) Grindelia, Chrysopsis, Pentachæte, Aphantochæte, Heterotheca, Bradburia, Haplopappus, Xanthismia, Chrysothamnus and (?) Lessingia." This list, it will be observed, includes a number of our very well distinguished North American genera. While it is freely admitted that the necessities concerning our N. A. Compositæ are all in the direction of fusion, and that numbers of genera accepted in the Synoptical Flora are apparently artificial, yet such a sweeping proposition as that above quoted could scarcely, it seems to me, be made by one who had enjoyed an opportunity of seeing the plants growing in their homes. I have therefore used the original name of Gay, and appended that of Baillon as a synonym. I here translate the original description by Gay.

"Stem woody, cylindrical, ramose, glutinous and lightly sulcate, the same as the branches, which are elongated, and very glabrous, nearly naked in the upper part, all terminated by a single head. Leaves coriaceous, thick, with a base persistent upon the stem, much crowded below the branches, obovate spatulate, nearly cuneiform, narrowed at the base, half clasping, slightly wavy above the middle, where they are bordered by thick teeth, glutinous, very glabrous on both faces, an inch long at the most and 4 to 6 lines wide. Involucre campanulate, formed of some four rows of scales, the exterior of which are foliaceous, ovate dentate, the interior lance-linear, acuminate, entire, scariose, slightly membranous at the margins, nearly as large as the disk flowers, longer than the ligules. Akenes very glabrous; pappus of a tawny reddish color."

MONTHLY REVIEW.

In *Pittonia*, II, 7, 40, Prof. Greene gives us the second of his papers on "Analogies and Affinities." We have elsewhere (DRUGGISTS' BULLETIN, July, 1889, p. 224) written some hasty comments upon Prof. Greene's first paper, which may in general serve as a basis for the present review. In this number he remarks upon the uncertainty of accepted therapeutical properties as a basis of classification. If, instead of the word "therapeutical," he had said, what was evidently in his mind, "physiological," he would have ruled out a majority of the elements of uncertainty admitted by the former word, but yet his proposition would have been true enough. He says: "That certain vegetable products taken internally produce emesis, argues little for the identity of chemical principle in all vegetable emetics, and perhaps less for the consanguinity of the plants which yield them, other considerations being left out of view." Perhaps no better illustration of the principle which he seeks to maintain could have been selected by the author. While some plants produce emesis as a result of their direct irritation of the peripheral endings of the stomach nerves, others produce nausea by their effects, after absorption, upon the nervous centres; and such vomiting has been produced from a rubber bag sewn into the abdominal cavity in the place of the excised stomach. Prof. Greene would, therefore, attach more importance to those properties of plants more certainly and more generally recognized by the senses of taste or of smell. Applying this principle in the case of the Cruciferæ, he presents a brief but rather exhaustive analysis of the anthological diversities which pervade that peculiar family, and points to the absolute uniformity of taste and odor which characterizes them. He speaks of their relationship to the Capparideæ as regards structure, but insists upon the evidence of the distinction in their, however similar, savors and odors. He cites Stanleya as being structurally a connecting link between the two orders, and refers to the experience of Nuttall and his men, after eating of its leaves, as being "indicative of decidedly Capparideous therapeutic qualities." Here in its physiological properties, as well as in its structure, we see again the close similarity between the two families; for the effects upon Nuttall and his men were those of a decided emesis, plainly indicative of many plants in the Capparideæ. But we find also excellent emetic properties in the common mustard. While positive information upon this point is not be be found, yet it is very probable that the emesis in the case of the Capparideæ is of central origin, whereas in the case of the mustard it is assuredly local. Which is it in Stanleya?

Regarding therapeutical, or even physiological, action as evidence of relationship, our knowledge and our powers of classification are yet far too weak to allow of our leaning very heavily upon them. While such properties, and conversely such relationships, form a valuable part of "cumulative evidence," they can be little more. It is certainly not quite true that "it is commonly asserted by medical botanists that the same therapeutical qualities inhere in all the species of a genus, or in all the plants of an entire natural order," nor "that a common medical property will often run through all the hundred or thousand species of a large family of plants." That neither of these propositions is true, is really our important consideration. I do not remember at the moment, that in a single family, nor in a single genus of any extent, does the same medical property hold good in any degree throughout. The inefficiency of such evidence really rests in the fact that in every group we are certain to meet with exceptions. The important feature is that so very slight a botanical. and frequently also a chemical, variation results in not merely a variable degree, nor even a slightly different kind, of medical property, but in one exactly opposite to that of the relative. Again and again we are struck with the fact, as in the Rhamnaceæ and the Leguminosæ, that plants botanically, and constituents chemically, very closely related, will produce upon the one hand strongly purgative, upon the other powerfully astringent effects.

We note that the *Illicium religiosum* yields an oil which is bitter and poisonous, while the *I. anisatum* yields one delightfully fragrant, and innocuous. Almost exactly identical, moreover, in every respect, with the latter oil, is that derived from the Anise fruit, a product of the Umbelliferæ. Following a step farther, we note that this oil of Anise fruit can hardly be distinguished in taste and odor, and scarcely so in composition, from that obtained from Fennel fruit, also umbelliferous; yet the latter is said to be an irritant poison in sufficient doses, while the former is by no means so.

In the natural order Compositæ we are met at every step by these diversities in constituents and properties, not only as existing between different large groups, but between the individual members of small ones.

In the aconite root we have a powerful cardiac depressor, while in its not distant relative, the Adonis, we possess an agent which is rapidly supplanting digitalis as a powerful cardiac stimulant, a physiological antidote to aconite poisoning.

In opium we have one alkaloid which can be most successfully used as an antidote to poisoning by another from the same substance. It is perfectly conceivable that in a different species than the *Papaver somniferum* the conditions regarding the relative amounts of these two principles might be reversed, with a consequent opposite medicinal effect.

In order to decide what degree of importance is to be attached to "properties" of any kind as indicating relationship, we must first go far back and decide as to the function of such property in the vegetable economy. Just as in anthology we must carefully discriminate between those structural devices which represent distinct methods toward the accomplishment of objects, and those which indicate mere subordinate variations in the manner of carrying out those methods, so in regard to the properties we must first learn the object which the plant is seeking, and then consider the nature and relationships of the processes by which they are sought. Of these points we know as yet very little. We appreciate that there are nutritive, metastatic, and product substances in plants, and that these product substances are partially useful and partially waste; but just which of them are produced for a purpose and which are waste, or which, being waste products, are at the same time incidentally given a character which enables them to serve a useful purpose, and what that purpose is, is *terra incognita*, and must be decided before we can go very far into the question of relationship indications. Regarding many of these properties we possess very strong clues. The fruits of the Cucurbitaceæ, frequently fleshy as a necessary condition for the maturity of the seed, and thus edible, are provided with the most active and prompt of purgative powers the result of which is that those seeds may be expelled without suffering by the digestive process; and it is even affirmed in the case of some of them, that such transit through the digestive tract is a necessary or important requisite to germination. Now, in spite of any modification of the constituents producing such a change, they might fairly be considered as still indicative of relationship, and it is even perfectly conceivable that slight chemical changes in such constituents might result in the production of an exactly opposite medicinal effect. Here, then, we would have two constituents belonging to the same series, the one a derivative of the other but with opposite properties. Coming now to the roots of plants in this family, we frequently find them growing in the desert, and necessarily large and starchy—the natural food of the starving animals of the desert. Here the possession of a purgative property would avail but little for the preservation of the species. In such roots, therefore, a new series of constituents is found by which there is added to their purgative properties an intensely disagreeable taste or, a painful effect upon the gustatory nerve.

All of which brings us back to the principle that while of the greatest interest, and eminently worthy of careful record, the consideration of physiological properties can avail us little in classification at the present time. As regards taste and smell, they are but forms of physiological effect; but, derived through senses designated as "special" for the very reason that Nature has made them more highly specialized and less fallible than those of general sensibility, it is evident that they must serve us at least somewhat better than those resulting from influences bearing upon the vital functions.

Very similar in its bearing to the above is the preceding paper, by the same author, on "The Color Character," in which it is contended that this character is of more importance in classification than American botanists have been accustomed to concede.

The first paper in this number of Pittonia is of some interest to pharmacists, being entitled "Vegetative Characters of the Species of Cicuta." Prof. Greene would find in the roots of these plants his leading characters in the division of the genus. His first section has the "root-axis very short, nearly or quite erect, never enlarged; its partitions crowded." The first division of this section has the "roots all alike, slender fibrous," and includes only *C. virosa*, L. This species Mr. Greene believes does not exist upon this side of the Atlantic. The second division has the "main roots coarse, elongated, fleshy fibrous, and includes *C. Bolanderi*, Watson; *C. occidentalis*, n. sp., and *C. purpurata*, n. sp., all of the Pacific States. The third division has the "main roots oval or oblong, fleshy tuberiform," and includes the eastern species, *C. maculata*, L., and *C. bulbifera*, L. His second section is defined as "Rhizomatous species; the root-axis greatly enlarged, horizontal, only partially or not at all subterranean, emitting fibrous roots from beneath," and includes the new species, *C. vagans* of the North West, and *C. californica*, Gray.

In "New or Noteworthy Species, VI," 16 new species and varieties are described, and some remarks are contributed, maintaining the distinction of the author's *Rhamnus rubra* and Mr. Howell's *R. occidentalis*. The latter species is considered as being more closely related to *R. Purshiana* than to *R. californica*.

The report of Prof. Chas. H. Peck, State Botanist of New York, for 1888 has just reached us. Prof. Peck reports that 253 specimens, representing 119 species new to the herbarium, with 40 new to science, have been added during the year. Fungi being the well-known specialty of this botanist, we are specially interested in his report upon this class. He notes that the early part of the year was too cool and dry for the development of these plants, but later in the season they became exceedingly abundant. His remarks upon edible species are interesting. To most botanists it is well known that the common mushroom is only one, and rather an inferior one, of many edible and delicious species of fungi. But the fact is not so well known to the public, by whom all species of "toad-stools" are considered poisonous. Speaking of a visit to Essex County, Prof. Peck says: "In every direction, and at frequent intervals, the brownish-red and tawny-red hues of groups and tufts of *Tricholoma imbricatum*, *T. vaccinum*, and *T. transmutans* could be seen. They might have been gathered by the bushel. But for the ignorance of the inhabitants concerning these plants, their tables, and those of the large boarding houses there, might have been supplied with an abundance of the novel, but good and wholesome food which these three species would have furnished for the slight labor of gathering them, And other edible species were by no means rare or limited in quantity. *Geoglossum vitellinum*, a small but beautiful and tender fungus, grew in such profusion in low woods where the ground is covered with moss, that it was tested as to its edible qualities and found to be very good. *Clitocybe media*, a new species, and *Tricholoma transmutans* were also tested for the first time. I have no hesitation in adding these three species to the list of edible fungi."

Dr. C. F. Millspaugh contributes to the *Proc. Cal. Acad. Sci.*, Sec. 2, Vol. 2, an important contribution to our knowledge of the North American *Euphorbiaceæ*. Dr. Millspaugh is probably our best authority upon this large and difficult family, and displays a very keen discrimination in the separation of forms. The present paper is based upon a collection made by Mr. T. S. Brandegee in 1889 on the mainland of lower California and adjacent Islands. Thirteen species new to science are described.

In the preceding number of the BULLETIN an excellent résumé was presented of the contribution from the Research Laboratory of the Pharmaceutical Society of Great Britain, on the subject of *Scopolia carniolica*, Jacq., the new substitute for belladonna. Those who are interested can find in the *Pharmaceutical Record*, Jan. 20, p. 26, an excellent figure of the plant, with rhizome, and cuts showing its microscopical structure.

In a recent paper by Prof. M. E. Hyams on "The Crude Drug Industry of the South," we find the strongest evidence of the immensity of the proprietary medicine business as compared with the trade in legitimate pharmaceutical preparations. While his report includes of course the standard drugs, it refers at the same time to the export from that State of millions of pounds, in the aggregate, of vegetable products used as drugs, but in reality nearly or quite inert, and finding little or no place upon the prescriptions of physicians.

In a letter to the editor of the *Pharmaceutical Record*, dated Paris, Dec. 13, 1889, M. Ch. Tanret announces the discovery of two new sugars in *Aspidosperma Quebracho*. Although the part of the plant is not stated, the supposition is that it is from the bark. Neither are we informed whether it is the red or the white bark, but presume the white was used. Some confusion moreover, exists as to the characters of the two sugars. Preceding the description the writer states that he names the new sugar Quebractite. At its close he says, "I name this new sugar Levogyre inosite." The intervening description is not divided in any way to indicate whether these two names apply to two different products, and if so, which part of the description applies to which. It is unfortunate that so interesting a chemical discovery should be thus marred in its report.

The result of a careful study, by Dr. J. H. Musser, of the effects of oil of eucalyptus in the treatment of malaria, appears to confirm the judgment that has already been generally reached; that it is useless as a specific in this disease, but that it is useful in treating those disorders which are apt to result from prolonged malarial poisoning, such as habit chills, malarial neuralgias, etc. Here its action is that of a simple aromatic stimulant, and the dose which he recommends is 5 drops four times a day, preferably in capsules.

The testimony as to the power of Syzygium jambolanum, or "Jambul-seeds," to reduce the amount of sugar discharged in diabetes, continues to accumulate. Dr. Graeser, in the *Lancet*, Nov. 1st, contributes a report of a number of experiments made in the treatment of diabetes artificially produced by the administration of phloridzin, from which it appears that the effects of the latter drug in the production of diabetic sugar can be largely overcome by the administration of the Jumbul-seeds either before, in connection with, or subsequent to that of the phloridzin.

Dr. Henry M. Field presents (*Ther. Gaz.*, Jan., p. 11) some excellent practical remarks upon the use of digitalis and nux vomica. Regarding digitalis, he holds that prevalent doses are entirely too large, there being few cases in which the concentrated tincture—the only preparation which he believes ought to be used—should be given in larger doses than 5 drops three times a day.

Our only objection to this position is the lamentable fact that the same prescription would bring in one place and at one time, quite as a strong a dose in 5 minims as at another time and place in 15. For this of course, the writer is not responsible, as he properly refers to a well made tincture; but that such is the case is an unfortunate fact. Further on in the same journal is a report by Dr. T. L. Lallerstedt to the effect that he has frequently given as much as 125 minims of the fluid extract gelsemium without the least bad effect. In printing this letter the editor of the *Therapeutic Gazette* enters a strong protest against its acceptance by his readers. He very properly says that the preparation used by Dr. Lallerstedt must have been very imperfect. Certainly one-tenth of the dose here named of the fluid extract gelsemium that we have been accustomed to see, would prove fatal in a large number of cases, particularly among children, where the doctor states he has frequently used it. Of such strong preparations a single minim often produces most satisfactory results in the case of children. Is it not a sad commentary on the pharmaceutical practices of our country, that one pharmacist dispenses a preparation of which there can be given, without harmful effects, 10 times as much as, prepared by another, constitutes an exceedingly dangerous dose?

We are in receipt of a paper by Dr. David D. Stewart, reprinted from the *Medical News*, November 25, on the action of olive or cottonseed oil in gall-stone colic. It has long been known that the use of large quantities of olive oil is efficient in causing the removal of these obstructions. Because of the lack of any rational theory as to the manner in which the remedy acted, more or less discredit attached to it in the minds of many practitioners. Dr. Stewart, whose paper is announced as only preliminary to a more extended report of experimental work now in progress, suggests that the oil is broken up in the duodenum, resulting in the production of glycerin, and that it is the glycerin which is active in exciting the secretion or transudation which carries away the calculi. It is considered probable that not less than a half pint of the oil can be effective. The tendency to vomit as the result of such large doses, he has successfully combated by administering with it ⅓ of a grain of cocaine and a teaspoonful of ether, and following it with a swallow of undiluted brandy. A free flow of the pancreatic juice being necessary for the reduction of the oil, belladonna or atropine is counter-indicated, as having a tendency to check such secretion. Glycerin administered per mouth would not accomplish the result as it would have become too much diluted before reaching the duodenum.

Triumfetta semitriloba, Lin. Some enquiry was made in certain crude drug circles during the past month regarding this cosmopolitan member of the Tiliaceæ. Tracing this enquiry, we find that it had its origin in a paragraph of a Trinidad special correspondent of the *New York Herald*, Dec. 28th. The description of the virtues of this "new medicinal plant" reads very like a patent medicine advertisement. It is possible, however, that the writer's enthusiasm arises from "having personally witnessed its good effects in almost hopeless cases of indigestion." We are told that "in cases of dyspepsia, indigestion and liver complaints the therapeutic effects of this plant have been simply wonderful. Patients who have been almost tired of life have been brought back to health and happiness under its use, etc." We considered this might have been elaborated somewhat by the fluent pen of the *Herald's* "special" until we found it verified by consulting a "List of Medicinal Plants," published in the *Agricultural Record*, the "official journal of the Central Agricultural Board of Trinidad" (Aug., 1889). The Hon. Dr. de Verteuil, who compiles this list, thus speaks of the plant in question, the ***Triumfetta semitriloba***, Lin.: "Lately my attention was called to the Cousin Mahaut, *Fr.;* Cardillo de Perro, *Sp.;* as a very good cure for chronic affections of the liver or dyspepsia, and I must say that I have tried it with very good results." The plant grows in the tropics of America, Asia, and Africa; it has been recorded also as growing in the Southern U. S. Its only hitherto recorded medicinal use is related* of an infusion of the herb as a mucilaginous and astringent injection in gonorrhœa. It is said to yield a fibre that is utilized in Jamaica in the manufacture of hemp.†

"Ink plants." A correspondent very recently sent us a clipping from an unnamed source which directs attention to the fact that the juice of the fruit of *Coriaria thymifolia*, Humb., serves as a natural ink "without the slightest preparation." We have not the same enthusiasm as our correspondent evidently has respecting the use of this fluid, notwithstanding the fact that it does not corrode steel pens, and is able to stand immersion in sea-water with impunity. The fact that the juice of the plant mentioned has been long known to possess the property of writing, at first red, but shortly becoming black, is rather against the idea that there are "millions in it," for not even where it is native, in New Zealand and Spanish-speaking America, is the juice used in preference to the much more convenient writing fluids of commerce. The price also of such a fluid prepared from fruit necessarily picked by hand and subjected afterwards to the pressing process, could not compete with that of the fluid made by our large manufacturing stationers, where the labor involved in making one hundred barrels of ink is virtually the same as for one pint. Besides, ink as now made is sufficiently black and permanent to suit our purposes, and pens are surely cheap enough even if there be some little corrosion. A natural juice of such a nature would also require to be carefully fortified against fermentation and decomposition.

Many plants are known to possess juices which are capable of being used as ink, among the more notable being the ***Renealmia silvestris***, Griseb.; ***Baloghia lucida***, Endl.; ***Comocladia dentata***, Jacq., and ***C. integrifolia***, Jacq.; ***Semecarpus Anacardium***, Lin.; ***Anacardium occidentale***, Lin. Many others could also be employed, so far as regards their coloring property, but their juices are too gummy or resinous to flow freely from the pen.

Melanthera Brownei, Schultz. We are informed in a letter from a medical friend who has left the United States for medical missionary service on the West Coast of Africa, that this plant is worthy of attention by the medical profession of this country. The plant is a member of the Compositæ, and said to be found in abundance. The leaves and stems are employed in infusion in fevers much the same as quinine would be used by us. Its most important use, however, is considered by the natives to be as a styptic and antiseptic when applied to all kinds of wounds and sores, and also in discussing threatening local inflammations of bruises, etc., in somewhat similar application as our familiar witch-hazel. Our friend writes that he "can see no reason why this should not become a family medicine" for the latter purpose alone. It is known to the natives of the Liberian Coast as "Mtuvaboah."

"Goltua" is the native Liberian name of a small tree, or shrub, made known through the same source as above, but whose botanical name was not determined. The leaves are used by our friend in his practice as an alterative tonic and laxative. He informs us that the natives use it successfully in various skin diseases, and also that the infusion from only four of the leaves is employed by them as a cathartic. It gives promise as a drug to be of value should steps be taken for its introduction, and we may possibly have more to say about it when it is located by proper botanical determination. It would certainly be interesting to find a drug that would combine, as "Goltua" appears to do, the properties of two such valuable drugs as Berberis Aquifolium and Cascara Sagrada.

We are informed on the authority of a recent number of the *Garden and Forest* (January 8th) that no less than twenty tons of violets are annually used in Cannes and Nice in the manufacture of perfumes, and about one hundred and twenty tons of orange blossoms.

The well-known Frangipanni essence is made from different species of Plumeria (a genus belonging to the Dog-bane family), which grow in the West Indies and certain parts of South America, and especially from *P. rubra*, a native of Jamaica.—*Garden & Forest.*

---

* Lindley, *Flora Medica*, London, 1838, p. 148.

† Lunan, *Hortus Jamaicensis*, London, vol. i, p. 125.

Nut-Cracking Department.

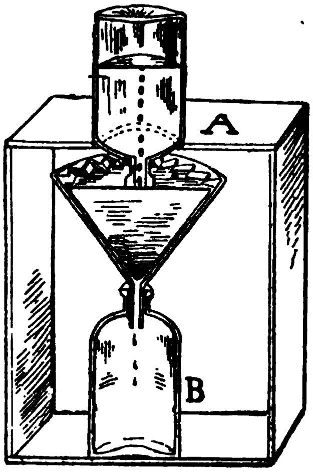
Weighing or Measuring.

"W."—Setting aside any slight advantage which may be credited to the convenience of either method. We believe that liquid medicines should never be administered by weight but always by teaspoonful, tablespoonful or other convenient measures.

The principal reason for preferring this volumetric method is that the physician has the more ready means of calculating and apportioning doses in prescribing. A wide difference exists between the weight and volume of some liquids as the specific gravity table abundantly shows. A teaspoonful of ether weighs about 40 grains while a teaspoonful of chloroform will weigh about 85 grains, or over twice as much, hence in prescribing gravimetrically and administering volumetrically the physician can not afford to disregard specific gravity, but is forced to keep these differences constantly in mind, and there is not always time to do justice to such calculations at the bedside.

Automatic Filtering Apparatus.

T. R. L.—There is probably no more efficient and practically convenient method, than that illustrated in the accompanying sketch, and briefly described as follows: Take two bottles, A and B, of equal size, place a glass funnel containing a plaited filter fitted for the purpose, into bottle B. Fill bottle A with the liquid to be filtered, close its orifice with your finger, or with a cork, invert the bottle and place it in a suitable rack, in such a manner that its mouth will come about one inch below the level of the filter top; remove the stopper and the liquid will gurgle into the filter until the prescribed level is reached, when it will stop. Now as the liquid passes through the filter, the level of its surface will be lowered, and the mouth of A opened, admitting air until sufficient liquid escapes to re-establish the former level, again closing the mouth of A, and so on until all the fluid has passed through the filter and is safely stored in bottle B, without danger of waste from overflow.



The same method may be employed in washing precipitates, and maintaining a constant supply of menstruum in percolation.

Filtration can be conducted on a large scale, by substituting five-gallon demijohns for the bottles A and B, and placing an appropriate number of such outfits, side by side in a suitable rack.

Abbreviations.

"V."—Such abbreviations have been used for years, and we presume will continue to be used in spite of anything that can be said on the subject; the pharmacist must bear in mind, therefore, the necessity of being constantly on the alert for certain ambiguities which may prove fatal—for example:

Acid Hydroc.	may mean	Acid Hydrochloric or Acid Hydrocyanic.
Ammon.	" "	Ammonia or Ammoniac.
Aq. chlor.	" "	Chlorine Water or Chloroform Water.
Hyd. Chlor.	" "	Hydrogen Chloride, Calomel, Corrosive Sublimate, or Chloral Hydrate.
Ext. Col.	" "	Ext. Colchicum, or Ext. Colocynth.
Sulph.	" "	Sulphur, Sulphate, Sulphite, or Sulphide.
Hydr.	" "	Hydrargyrum, Hydrate, Hydriodate, Hydrochlorate, Hydrocyanate, Hydrastis, or Hydrastine.

Cement for Glass Labels.

"D. O."—The following formula is commonly used, and will probably answer:

Add to one part of superior yellow wax, three parts of rosin; melt in an open pan or kettle, with gentle heat, to the consistence of syrup.

Directions:—Place the bottle, perfectly free from moisture, on a table, in a nearly horizontal position, before you. Pour the melted cement on the hollow side of the label with a spoon, then apply the label to the bottle with gentle pressure. While the cement is soft, run the point of a knife around the label, so as to form a grove in the cement and save labor in chipping off the exuded portion—which can be done after the cement has been allowed about one-half hour to harden.

Soda Fountains as Fire Extinguishers.

Pharmacists who carry on work, and store inflammable material in the cellar, should not forget that soda fountains can be made to serve as excellent fire extinguishers by extending a line of gas pipe through the entire length of the cellar and to adjacent rooms with suitable short hose and nozzle connections, also that, in the absence of such pipe connections, two strong workmen can easily carry a small steel fountain to a point from which its contents can be emptied on the fire.

Azolitmin Paper.

A test paper which is very sensitive to the action of acids and alkalies, and especially susceptible to the action of ammonia, can be prepared in the following manner.

Wash litmus by trituration with alcohol, repeating the operation, until the alcoholic washings come off nearly colorless.

Treat the residue with water and allow chalk, sand and other impurities to subside; decant the deep-blue clear liquid, inspissate on a water bath, and wash the product by trituration with alcohol, acidulated with acetic acid.

Pour off the alcoholic washing as close as possible, add to the sediment about three parts of water, for one part of litmus used; carefully evaporate the resulting solution until the alcohol and acetic acid are removed, and the proportion of coloring matter increased so that a sample of test paper prepared extemporaneously shows a satisfactory reaction with weak acid and alkaline water.

From this liquid, blue, red, and neutral azolitmin paper, can be made in the usual manner. If carefully prepared, the red tint will indicate one part of 28 per cent. ammonia in 50,000 parts of water. In testing a liquid of this character, the paper should be allowed to remain partially immersed, at least one minute to obtain perfect reaction. Such a test is rendered more certain by immersing the red, blue and neutral paper, side by side, and dipping a corresponding set of three in pure water, for comparison.

The use of litmus or azolitmin paper, by gaslight, is always attended with uncertainty, and such operations should as far as possible be executed during the day.

Green Color of Apomorphine Solution.

W. S.—The development of a green color in solution apomorphine hydrochlorate, is the result of a decomposition described in the text-books.

The change in color is credited with carrying with it a corresponding deterioration in the medicinal activity of the salt.

Colored glass bottles are credited with preventing the change of color, but samples of fresh solution soon turned green in both green and amber bottles in an experiment made under our hand.

We also observed that, while the change is accelerated by ammonia, it is entirely prevented by a very small excess of hydrochloric acid.

Metric Prescriptions.

"V."—The interpretation of the prescription given by "B" is undoubtedly correct.

Such uncertainties can easily be obviated by requesting your medical friends to employ the decimal *line* instead of the *dot* in all metric prescriptions; for, as in the case at issue, a fly-speck or a black spot on the prescription paper, or even an accidental touch of the pencil-point, is apt to increase or decrease the quantity of an ingredient ten times.

The advantage of the line over the dot is clearly shown in the following examples:

℞ Zinci sulph........ | 6
Aq. dest........... 32 |

℞ Zinci sulph........ .6
Aq. dest........... 32.

Blue Ink for Rubber Stamps.

"C."—The following is a cheap and serviceable ink for this purpose:

℞	Blue anilin (soluble)..............	110 grains.
	Water............................	1 ounce.
	Glycerin..........................	7 ounces.

Turpentine.

W. S.—Commercially, the term "Turpentine" is frequently applied to oil or spirits of turpentine.

Technically, however, the name belongs to the substance commonly known as "White Pine Turpentine," "Gum Thus," etc.

The U. S. Pharmacopœia decribes Turpentine as "a concrete oleoresin obtained from ***Pinus australis***, and from other species of ***Pinus***."—"In yellowish, tough masses, brittle in the cold, crummy-crystalline in the interior, of a terebinthinate odor and taste."

It is therefore safest, when "turpentine" is asked for in the retail pharmacy, to inquire with a view of ascertaining what is required.

Red Ink.

Z.—The following formula will yield a good red ink for ordinary use:

℞	Eosin	240 grains.
	Gum arabic	1 ounce.
	Water	1 gallon.

Cold Cream.

S. T.—The following differs from the official preparation, and is an agreeable application:

℞	Lard (rendered from fresh leaf lard)	2½ ounces.
	Oil sweet almonds	1 "
	Paraffin	½ "
	Tannic acid	17 grains.
	Oil neroli	10 minims.
	Benzoic acid (in about 20 ♏ of alcohol),	16 grains.

Correspondence.

PARIS LETTER.

The Druggists' Bulletin and French Pharmaceutical Journals—Review of New Australian Pharmacopœia—Medicinal Biscuits—An Ointment for Sciatica—Local Applications in Dentition—Formula for Athenstædt's Soluble Saccharate of Iron—Antiseptic Power of Weak Solutions of Corrosive Sublimate—Method of Making Medicamentous Crayons—Eligible Formulæ of New Hypnotics, Huchard's Aspeptique, Aeschlimanns Catarrh Snuff, Isaac's Acne Paste, Rousseau's Collutory for Angina.

The French scientific papers often quote or make excerpts from the DRUGGISTS' BULLETIN, but it does not frequently happen that the entire pharmaceutical press copies with one accord a particular item from it. Yet this seems to be the case with the BULLETIN's recital of the proper method of superposing seven transparent colored liquids for use as ornamental window-vases. As the *Répert de Phar.*, *Nouveaux Remèdes*, *Union Phar.*, etc., have presented this matter in all of its interesting details, I am in daily expectation of seeing the windows of Parisian drug stores ablaze with an American idea.

The new Australian pharmacopœia is undergoing review in the French pharmaceutical press. M. Boymond says of it (*Répert de Phar.*, Jan. 10th), "We observe that new medicaments cannot be dispensed except upon the prescription of a physician, and that toxic substances must not be sold except in quantities sufficient to last 24 hours, without the preparations have an exclamatory sign (!) on their labels. * * * We find that tinctures and fluid extracts are to be manufactured by displacement. * * * The new medicaments introduced are: Cascara sagrada, quebracho, strophanthus, condurango, hydrastis canadensis, tannate of mercury, menthol, naphthol, naphthaline, lanoline, nitrite of amyl and some others. * * * Benzoinated lard is made with 40 parts to 1000. * * * Sub-nitrate of bismuth must be tested with the Marsh apparatus. * * * Cinchona must contain 3.5 to 10 per cent. of alkaloids. * * * The only fluid extracts mentioned are those of cascara sagrada, quebracho, and hydrastis. * * * Bi-carbonate of soda takes the name of hydro-carbonate. Syrup of iodide of iron contains 5 per cent. of active principle and no preservative substance. * * * Mercurial ointment is to be made with lanoline; simple ointment must have 4 of lard to 1 of wax."

Medicinal biscuits are described by M. Royer (*Jour. de phar. d'Albs. Lor.*), who says casually that "the pastry-cooks generally have trouble with these articles because the drugs prevent them from rising properly." This able pharmacist triumphs over the difficulty in a way which calls for the blessings of all persons who are partial to taking their drugs at the breakfast-table. M. Royer's process is to medicate the biscuit after it is baked. He sprinkles the drug over the upper surface, and promotes its absorption by the use of a spray. He then sprinkles over a good layer of powdered sugar, and puts the completed article away to dry. For "scammonium biscuit," he uses a spray of alcohol. With his "santonine cakes," he is obliged to use chloroform. "Calomel crackers" are made by mixing that salt with a third of its weight of colophonium. "It is obvious," says the author, "that if we now spray the cracker with alcohol the drug will stick on." This ingenius pharmacist might do well to get up a series of medicinal varnishes for family use on confectionary, etc.

M. P. Vigier is an observant pharmacist. Learning that several sufferers from various localized rheumatic troubles—and especially sciatica—had found great relief through the use of an ointment peddled by a Norman quack, he obtained a sample of the application and analyzed it. He found it to consist of: Sulphuric acid, 1 gramme, and lard, 7 grammes. He made up a quantity of this, by the simple process of adding the acid to the fat in a mortar, and distributed it to several sufferers. The reports were extremely favorable. The application causes considerable redness and some heat, but it does not vesicate.

In the *Rev. des maux de l'enfance*, Dr. Monti gives some formulæ of preparations which have been found useful as local applications to the gums of children suffering from their first dentition. As efficacious antiseptics, he prescribes one of the following:

℞	Boracic acid	3 grammes.
	Tr. myrrh	3 "
	Aq. dest.	200 "

Or:

℞	Salicylate of soda	3 grammes.
	Tr. myrrh	3 "
	Aq. dest.	200 "

After the milk-teeth have appeared, the following powder may be applied with gentle friction. It is said (by Zsigmondy) to given excellent results:

℞	Carb. magnesia....................	
	Medicinal soap.................... āā	10 grammes.
	Cuttle-fish (pulv)..	10 "
	Ess. menth...................... ...	4 gtt.

For younger infants the following may be used:

℞	Carb. magnesia....................	5 grammes.
	Chalk (prep.)........................	15 "
	Salicylate of soda....................	15 "
	Ess. menth..........................	4 gtt.

Paris pharmacists are unable to resist their weakness for counter-prescribing when the pleading mother appears in behalf of the gingivitis of her first-born.

Athenstaedt's soluble saccharate of iron (a Berlin patent) is said by the *Moniteur Scientifique* to be made as follows: a 1 : 100 solution of a ferric salt is precipitated with a solution of equal strength of ammonia or a fixed alkali, care being taken to keep the solution at a temperature between 50° and 60° F. The precipitate is washed rapidly, in a darkened room, with distilled water of the same temperature. When the washings cease to give an alkaline reaction, to the moist ferric hydrate is added a quantity of sugar equal to three times the weight of metallic iron in the dried product. The mass is now kept at the boiling point until the hydrate dissolves in the syrup. The dried product is obtained by evaporation, which is best done *in vacuo.* If it be desirable to keep the saccharate in solution, water is added to the mass after cooling. The liquid is clear, and will so remain indefinitely.

According to the *Journal d' Hygiène*, solutions of corrosive sublimate may be made to retain their full antiseptic power without giving rise to toxic symptoms, by first taking care to use quantities which, of themselves, would be insufficient to produce a toxic effect, and then subjecting the solutions to a temperature of 104° to 113° Fahr. M. Scalzi has demonstrated that solutions of 1 to 10,000, or 1 to 20,000, will preserve urine from putrefaction if used warm. Under the same condition, solutions of meat-juice containing 1 of corrosive sublimate to 100,000 are kept from alteration. These warm, weak solutions of corrosive sublimate have been tested successfully in the dressing of wounds. It is stated that Prof. Richet and M. Saint-Hilaire arrived, some months since, at the same conclusions as those stated by Scalzi.

At a recent meeting of the *Société de Pharmacie*, M. Garesnier's method of making "medicamentous crayons (plastic) with a soap basis," was duly explained. Following one of Prof. Tarnier's formulæ, the pharmacist first made a cupric crayon consisting of: Sulphate of copper, 1 gramme; white soap, 30 grammes. The salt was pulverized in a mortar, and the soap (previously rasped) was added, together with 10 drops of castor oil and 30 drops of glycerin. The mass was then heated to 212°, when it was drawn (by aspiration) into glass tubes of the size required. On cooling, the stick was pressed out, wrapped in paper, and put aside for use in well corked vials. Creasote pencils were made in the same way, the formula being: Creasote, 1 part; soap, 4 parts. The author states that phenic acid or iodide of potassium pencils may be prepared in like manner.

In a recent article in the *Bull. Gén. de Thérapeutique*, M. Egasse reviews the action of several "new hypnotics." Its chief value to pharmacists lies in suggestions offered as to preparation and dosage. The hydrate of amylene, which he considers equal to sulphonal, may be given in doses of 3 grammes, in capsules. In the liquid form, raspberry or licorice are suited. An eligible formula is: Hydrate of amylene, 6 to 8 grammes; ext. licorice, 10 grammes; water, 60 grammes. For enemata, the following may be used: Amylene, 4 to 6 grammes; mucilage, 10 grammes; water, 100 grammes. Somnal is formulated as follows: Somnal, 10 grammes, raspberry syrup, 20 grammes; aq. dest., 45 grammes; dose, a tablespoonful. The author thinks it is too early to speak as to the real value of this drug. Ural, according to the author's view, is a weak and inconstant hypnotic, and has the additional disadvantages of being both bitter and costly. It may be given in doses gradually augmented to 4½ grammes, preferable in cachets, though a mixture may be made with alcohol, sugar and alkali.

Among the recent formulæ is one that has become known as Huchard's Aspeptique. It is as follows: Pancreatin, bi-carbonate or benzoate of soda, magnesia, each 4 grammes; nux vomica (pulv.), 40 centigrammes; make 20 cachets; one before each meal. Salolized Collodion seems to have been adopted from German practice. The formula is: Salol, ether, each 4 parts; colodion, 30 parts. Of the same origin is Æschlimann's Catarrh Snuff, which is formulated as follows: Naphthalin in fine powder, 25 grammes; boracic acid, 25 grammes; camphor, pulv., 1 gramme; ext. violet, 1 gramme; essence rose and patchouli, each 10 centigrammes. Rothe's Erysipelas Solution: Phenic acid, 1.80 gramme; alcohol, 30 gtt.; tr. iodine, 30 gtt.; ol. terebinth., 30 grammes; glycerin, 90 grammes. It may be painted over the parts, or used on compresses. Reports from various sources praise this application highly. Isaac's Acne Paste: Resorcin, 2½ to 5 grammes; oxide of zinc, 5 grammes; starch, 5 grammes; vaselin, 12½ grammes. To be left in contact with the skin for 24 hours, and then rubbed off with oil. Its good effects are observed in 3 to 5 days. Rousseau's Collutory for Angina: Borate of soda, 2 grammes; chlorate of soda, 2 grammes; glycerin, 8 grammes; honey, 4 grammes. The throat should be painted with it 4 to 5 times daily.

LONDON LETTER.

Favorite Influenza Remedies—A Bottle-makers' Syndicate—Pharmaceutical Products and the Food and Drug Inspectors—Curious and Costly Dispensing Mistakes.

The influenza, which is now gradually disappearing, has been rather a novelty in English medical practice, and this doubtless accounts for the great variety of remedies which has been proposed and employed for it. There can be little question that the epidemic has caused a large quantity of money to circulate, beyond what is usual at this time of the year, if only for the purchase of quinine and antipyrin. Enterprising advertisers endeavored to make hay while the sun shone, and recommended their goods in capital letters as certain prophylactics. When, however, certain dentifices, boot-varnishes, and such articles as the common or garden orange which is displayed in the street on the costeromongers' barrow, are energetically pushed as preventives, one begins to feel that the limits of credulity even for the British public, are being approached. Among the remedies used by the medical profession, quinine seems to have been the favorite, as might have been expected; it was given in doses of about three grains, either as powder, tablets, or the ammoniated tincture. Salicin makes a good second; it was almost exclusively used in certain hospitals and where rheumatic pains were a predominent symptom it was undoubtedly indicated. The use of salicylate of soda and of ammonia was a variation of the salicin treatment, Among the numerous new remedies whose virtues were vaunted, antipyrin came first, followed by antifebrin. One class of prescribers favored the common febrile mixture of acetate of ammonium, spirit of nitrous ether, etc. · Inhalations were also largely used, the mixtures mostly employed being devised on the theory that the affection was due to a microbe. There seems to be some doubt whether one attack gave immunity during the remaining weeks when the epidemic was rife. In isolated instances individuals are reported to have suffered thrice, but such cases are the exception. On the whole it is satisfactory to realise that such visitations do not occur more than once in a generation, particularly since in India, and the East, the disease is often regarded as a precursor of cholera.

We have been generally accustomed in this country to regard America as preëminently the land of "trusts" and "syndicates." Of late years, however, we seem to have caught the infection ourselves, and a conviction of the power attained by combination is gradually spreading among the people. Indeed, there is a general impression that it is about time that chemists also awoke to the significance of the idea and grasped it to their own incalculable benefit. However, this is not likely to happen just yet. In the meantime our attention is attracted by a combination which seems likely to affect a large proportion of the trades, and particularly pharmacy. The Glass Bottle Industries (limited) describes itself as "an amalgamation of twenty-four glass bottle manufacturers in the United Kingdom," incorporated "for the purpose (among other objects) of adopting the use of machinery in the manufacture of glass bottles, and saving of expenses by concentration of business and management." The directorate contains the names of eight members of glass working firms, but it is significant that the large manufacturers of the North, who command a large proportion of the trade, are conspicuous by their absence. We shall have to wait for further developments before the importance of the enterprise can be fully estimated; at present there seem to be reasonable grounds for doubting its ultimate success.

A curious and interesting legal case occurred at Nottingham a few days since, when Boot's Pure Drug Company of that town were charged with selling as saccharin tablets, articles containing 75 per cent. of milk sugar. It was contended for the prosecution that (1) the purchaser only got 25 per cent. of the drug for which he paid, and (2) that the addition of milk sugar would be most injurious to diabetic patients, the principal consumers of saccharin. This is only another instance of the misdirected energy of the Inspectors of Nuisances, who are continually stumbling upon mares' nests of some description. Lime water and spirits of nitrous ether have in the past afforded these gentlemen much lucrative employment, and the interested eagerness with which they have unearthed samples of the former containing a grain too little of lime, and specimens of the latter which having lost strength by age, they sapiently supposed had been diluted, must have added a pleasant charm to existence. Unfortunately the new edition of the Pharmacopœia, and the increased care of manufacturers and retailers, have together almost entirely robbed the Inspector of his occupation in these directions, and he now regards the stock bottle of the pharmacy labelled "Spt. Ether. Nit." with averted eyes. Something, however, had to be devised to pass away the time, and in a moment of inspiration the Nottingham inspector bethought him of saccharin tablets. Unfortunately his colleagues in other parts of the Kingdom cannot hope to distinguish themselves in the same direction, since the case was dismissed before all the evidence for the defence was given. It was clearly shown (1) that ½ a grain was the most suitable and the customary quantity of saccharin made into tablet form; (2) that ½ a grain of saccharin could not by itself make a tablet owing to its small bulk; and (3) that the addition of one or two grains of milk sugar per tablet was perfectly without prejudice even to diabetic persons.

The inspectors under the Food and Drugs Act, at Wexborough and Milusbridge, near Huddersfield, have quite recently been the means of bringing to light two curious cases of incorrect dispensing. Mr. Pickering, chemist at the first named place, was charged with dispensing ½ oz. of a very cheap drug—bicarbonate of potassium—for an expensive one—iodide of the same metal. The substitution was not denied, but it was alleged to be unintentional, and due to confusion partly caused by the purchaser laughing and talking with the dispenser. The most charitable must feel that it is scarcely credible that even a regiment of hilarious superintendents could so disconcert a pharmacist as to make him incapable of distinguishing between the two salts named. At any rate, the magistrate seems to have reflected on similar lines, for he inflicted a fine of £5.

The Milusbridge delinquent was one Ben Lockwood, who supplied 2 drachms of citrate of iron and quinine dissolved in plain instead of in chloroform water. Now for such an omission as this, nothing but pure carelessness can be alleged as the cause. The substitution in the menstruum is worth about 1/16 of a penny to the pharmacist—scarcely a large enough "haul" to compensate for the risk of fines to the extent of £1 sterling, such as Mr. Lockwood was called upon to pay. On the other hand, even supposing that chloroform water, at the time of the Inspector's visit, happened to be "off;" its extemporaneous preparation is so easy that this could hardly be a reasonable cause for the appeal to the tap which resulted so disastrously. Altogether, it seems, cases of this nature indicate that, among other forms of protection, the trade needs protection from the damage done by the acts of its own members!

PHARMACEUTICAL NEWS FROM GERMANY.

Golden Seal, Hydrastine and Hydrastinine—The Physiological Action of Uranium—The Preparation of a Stable Lead Oleate Ointment—Menthol Snuff Against Catarrh—New Remedies and the Influenza—A New Specific for Pertussis—Aristol, Another Iodoform Substitute.

The tendency of modern medicine is believed to lean towards simplicity of medication and crude drugs are being in many cases replaced by alkaloids and by active principles. In this way it is supposed that the characteristic therapeutical action of drugs is obtained free from the diluent action of inert substances—a supposition that with some notable exceptions, has been justified by experience. Not only, however, do we obtain from the vegetable kingdom those constituents of more or less definite composition to which its members owe chiefly their physiological action, but also from these naturally formed constituents, is produced a series of secondary compounds, which frequently are capable of producing effects upon the human body strikingly different to those of the primary principle. An instance of this has lately been pointed out by Dr. Falk in the Pharmacological Institute of Berlin, in the case of hydrastinine a so-to-speak "secondary product" of hydrastine. It will interest your readers to know that the materials used in the research were manufactured by an American firm—Messrs. Parke, Davis & Co.

Hydrastis canadensis is believed to be physiologically active by virtue of the two alkaloids hydrastine and berberine which it contains. Having undertaken the pharmacological investigation of hydrastine, Dr. Falk says (*Therap. Monatsh.*) he soon found sufficient reasons to explain the abandonment of the principle in medicine. It has a decidedly tetanic action, paralyses the heart and by irritation of the vaso-motor centres induces vascular expansion and increase of blood-pressure.

At the suggestion of a medical colleague the author turned his attention to hydrastinine. This alkaloid or rather its nitrate, is produced together with opianic acid ($C_{10}H_{10}O_5$) when hydrastine is gently warmed with dilute nitric acid. The new base is precipitated from combination with alkali and thus is obtained quite pure. The oxidation splits up hydrastin as shown in the following equation:

$$\underset{\text{hydrastine.}}{C_{21}H_{21}NO_6} + O + H_2O = C_{10}H_{10}O_5 + \underset{\text{hydrastinine.}}{C_{11}H_{13}NO_3}$$

and as far as is at present ascertained the secondary product is a chinoline derivation in accordance with which theory its constitutional formula is constructed.

Pure hydrastinine melts at 116° C. It is freely soluble in alcohol, in ether and in chloroform; in water either cold or warm it is only slightly so, though most of its salts are readily taken up by that solvent. Another point of difference between the base and its salts lies in the fact that the former contains a molecule of water of constitution which is not given up even when it is crystallized from anhydrous solvents. Hence while the formula of hydrastinine is $C_{11}H_{13}NO_3$ that of the hydrochlorate—which was principally used in the experiments is $C_{11}H_{11}NO_2HCl$. Both the base and the salts have an intensely bitter taste.

Physiological experiments showed that unlike hydrastine the new base does not induce tetanus, is not a heart poison and produces vascular contraction by a direct influence on the vessels themselves.

Therapeutically the principle was applied hypodermically—a 5 to 10 per cent. aqueous solution of the hydrochlorate being employed—in about 30 cases of uterine hæmorrhage. Save in two cases of ovarian bleeding (in one of which the administration of the remedy was contra-indicated) and in chronic metritis associated with hypertrophy, excellent results followed from the treatment, indeed 84 per cent. of the cases were either cured or relieved. Some local infiltration followed the injections but this never led to the formation of abscesses. From ¾ to 1½ grains of the salt were given daily in the form named. Larger doses however were without unpleasant secondary symptoms.

Some experiments by Prof. Kobert on the hygienic aspect of the growing employment of uranium salts in the manufacture of colors have led to significant results. One of your own countrymen, Prof. Chittenden, has recently announced that uranium is able to bring about a condition resembling diabetes; this statement is confirmed by the German investigator who found indeed that the salts of the metal can produce true diabetes mellitus in which when the ingestion of all carbohydrates is rapidly presented sugar is physiologically excreted. A characteristic of uranium poisoning is the presence of the condition which leads to uræmia and is generally fatal.

On the whole uranium would seem to be more toxic when taken by the mouth or introduced into the tissues than is even arsenic. In reference to these conclusions it has been pointed out that the dangerous nature of uranium colors was legally emphasized in Germany by a statute dated July 5th, 1887.

Unguentum diachyli, or Hebra's ointment, so universally prescribed, has always been a source of trouble on account of its instability; in a few weeks, like most ointments containing lead salts, it is quite rancid and exhibits the greatest inequality of color and consistence. Dr. Goldmann, following a line of experiment indicated a short time since by himself, announces that he has now succeeded in devising a formula which yields a preparation of perfect stability. He freshly precipitated lead oleate (by the double decomposition of lead acetate and Castile soap), washes, strongly presses, and then dissolves it in liquid paraffine by the heat of a water-bath (in the proportion of 100 of oleate to 15.4 parts of paraffine). In this form the lead oleate will keep admirably, and from it the "ideal ointment" is made by the addition of two-thirds of its weight of pure lanolin.

Menthol snuff is a fashionable preparation here just now, which is recommended for the treatment of catarrh. The stearopten is believed to possess antiseptic properties which are assumed to be necessary to arrest the ravages of the microbe to which (of course) are ascribed the effects of the affection named. It is combined with boric acid and with powdered roasted coffee, which not only by its absorptive powers aids the reduction of the menthol to a more or less mobile powder, but is itself believed to be antiseptic. The use of the snuff is considerable, and in many cases certainly most beneficial.

The influenza has caused such an influx of work in our pharmacies that in many of them extra assistants have been employed. It would seem now, however, to be gradually decreasing—a circumstance that, desirable as it certainly is from a humanitarian point of view, is scarcely so pleasing from a purely business aspect. The literature of the subject, already copious, is to be enriched by a report of a collective investigation of its causes, symptoms, etc. The occasion was seized to push nearly every new remedy, no matter how remote the *locus* of its physiological action might be from the seat of influenza. The result in many cases was not advantageous to the reputation of the articles. Sulphonal and phenacetine were among the remedies thus promiscuously recommended, and in the case of the former at least the chief result seems to have been that competition has still further lowered the price, and the end is not yet.

Bromoform, $CP Br_3$, is recommended by Stepp, as a specific for whooping-cough. When pure, this liquid is colorless, and samples turned yellow by age should not be used without previous purification. Only five or six drops will dissolve in about three ounces of water, but solution is facilitated by the addition of alcohol. The author administered one or two spoonsful of this solution, according to age, etc.

Aristol is the name under which a new substitute for iodoform has been just introduced into commerce. Among the numerous iodine combinations with phenols which have been within the last few years prepared and examined here, iodothymols were in the first rank. In diseases of the skin these compounds were extraordinarily effectual in a series of cases. The so-called "aristol" is di-thymol di-iodide, which contains 45.80 per cent of iodine. The substance is insoluble in water and glycerin, very slightly in alcohol, and readily in ether; from the etheral solution the compound is again precipitated by alcohol. The solubility of aristol in fatty oils is a great advantage in facilitating its application. It can be very readily scattered on the skin and is, therefore, particularly good as a dusting powder for wounds, burns, etc. Of much interest is the value of the compound in psoriasis, since, except chrysarobin, we have no more effective remedy in materia medica; chrysarobin causes not only an intense coloring of the skin, but also conjunctivitis,—drawbacks which aristol does not exhibit. In cases of lupus it will take precedence of all other remedies, and as it is quite destitute of any "suspicious" smell, will be the more readily used by physicians and the public.

NEW YORK LETTER.

FEBRUARY 7th, 1890.

The past month has been an exceedingly busy one in drug circles. *La Grippe*, which at the time of my last writing, had just fairly made its appearance, seemed to revel amongst the people throughout the entire month, and only just now does it seem to have left us on a westward and southerly journey. The consumption of medicines has been enormous. During the earlier days of the epidemic the demand seemed mostly for quinine, antipyrin and other drugs of like character. It has however been followed up by a call for expectorants, diaphoretics, tonics, and in fact, almost every kind of medicines, as the prostration following an attack of the "*Grippe*," seems to expose its victims to all sorts of acute complaints.

It has been reported that our druggists have never known such a busy time behind the prescription counter since the cholera season of 1849. Such a constant output of medicines through the pharmacy, has naturally had its effect upon wholesalers, which seems only now to begin to be realized. The manufacturers of pharmaceuticals throughout the country generally carry large stocks, so that they were prepared to meet the earlier rush upon them: but those stocks seem to have become pretty much exhausted, and orders are now pouring into the New York market for crude supplies. As a natural consequence there have been advance prices obtained for many of the leading articles, but not in so great a degree as one might reasonably have expected. Nevertheless, everybody seems contented with the result of January trade, and the prospects for the present month are exceedingly bright.

Opium.—The consumptive demand for this article during January, has been very much in excess of any month for some time.

There has also been a steady advance in values. No sharp advances have taken place, but from day to day higher prices have been asked and realized, and as the stock on hand becomes lessened, it becomes concentrated in fewer hands, so that it is generally expected that this advance will continue. Furthermore, reports from Smyrna have reached New York to the effect, that the growing crop has been severely damaged by frost; if these reports are true, and a change for the better does not occur, it will have a decided effect upon the holders of the present crop.

Quinine.—The great demand for this salt during the past month, has been a fair test of the amount of stock that was held throughout the world ready for use. It has not only proved sufficient for this great demand, but the quantities held were so enormous, that the advance, in view of the excessive demand, has been but trifling. I think it is fair to assume, that fully one-half the population of the civilized world, has been taking quinine during the past month or so. But this great output has not been sufficient to bring the price of the salt to a basis of satisfactory profit to even the manufacturers, let alone dealers.

I can only say concerning the present market on this article, that it is very firm, there being no disposition on the part of holders to sell. Furthermore, the advance in the price of quinine barks at the last sales was important. We find as a consequence that manufacturers are not very anxious to make large contracts at the present prices for future delivery, and it is generally expected on the part of dealers, that with the advent of the spring demand for quinine, which should commence about March, still further advances in prices will take place.

Menthol.—Our market is almost completely bare. The article is coming in very slowly, and the demand has been very great. It is to-day bringing double the price that it was six weeks ago, and we would not be surprised if its value was still further advanced during this month.

Jalap.—In my report of last month I intimated that supplies were very scarce and coming in slowly, and I now have to confirm the same condition of affairs. There seems little or no stock in the market; prices have advanced some six cents per pouud, and unless some relief is soon afforded by the way of supplies, very high prices may indeed be looked for.

Cod-liver Oil.—The open season through which we have passed thus far this winter, has made the demand for this oil unusually light. It therefore has remained low in value. During the past month, however, there has been greater demand for the article, and a consequent advance in value of about one dollar per barrel for the Norwegian variety has taken place.

Guarana.—Stocks have been reduced very largely during January, and we here know of no further supplies coming forward. The market, therefore, on this article is very firm.

Ipecac.—The heavy consumption of this article during the past month has absolutely exhausted stock in this country, as well as abroad. Cables have just been received that no recent arrivals have been reported, and that the London market is clear. The result has been a sharp advance in value, at which the market is now firm, with every indication of still higher prices.

Senna.—Of the Alexandria variety there is but little to be said, the demand being but normal. Of the Tinnevelly, however, the sales have been very great, reducing to a very low point all of the nicer grade. The more common grades, however, are in very large stock, but the better grades are scarce aud high, and will be higher yet before the new crop reaches us.

German Dandelion Root continues exceedingly scarce, there being none in the market that could be considered a prime quality. Such as is offered is light and pithy, and not fitted for the drug trade.

Buchu Leaves are in active demand, but it is not easy to obtain any of the nicer quality. The market is about one to two cents per pound higher than last month.

Gum Arabic.—Of the ordinary grades, at present there is a fuller stock than for some time past, but no supplies of First Picked have come to hand, nor can they be expected.

Every variety of gum is drawn upon—provided it is a light gum—that come under the general term of First Picked Gum Arabic, probably the greater portion however consists of Gum Senegal.

From the fact that it is exceedingly scarce, prices are ranging very high.

Oil of Peppermint has been in more active demand, but the consumption has not been sufficient to strengthen the market. Prices therefore remain about the same.

Ergot.—During the past months stocks have become more and more concentrated, until they are now held in very few hands. We are advised that of the German and Russian variety, stocks abroad are exceedingly light, so that while at the present moment no higher prices can be quoted, there is a firmer feeling in the market, with the general belief, that before the new crop can arrive higher prices will be obtained.

PRACTICAL ASPECTS OF STANDARDIZATION.

EDITOR OF THE DRUGGISTS' BULLETIN:

Traveling on a railroad car on official business to-day, I took the DRUGGISTS' BULLETIN and a well known drug periodical of Chicago along and read up on "Standardization." To my mind neither your paper nor this other journal are on the right track; it will hardly convince anybody if you talk of bribery of those who oppose standardization while the opponent to standardization in the other journal convinced me that there is a good deal more in the subject than I ever thought before. A few more such editorials as that from the Chicago periodical, evidently by some volunteer editor, and I shall be for standardization.

The pharmacists of to-day, take them as they are and what they say, are in favor of raising the standard, and they can not be more at the mercy of manufacturers than they now are; the only question is, shall the goods they handle be of a better grade? They sell anything they have a call for, the point will be, will the call for preparations of a fixed standard be mandatory?

Both parties in the coming issue should bring a calm consideration to the discussion of the merits of the question.

Let me ask the druggists of this country a few questions.

Don't you sell any and all patent medicines you have calls for, if you get your standard price for the goods?

How many of you are there to-day who make their own unstandardized fluids?

Have you not every one of you a full line of all the ready made pills you have a call for?

Don't all of you sell and dispense powdered drugs you don't powder yourself, but buy of some standard firm?

What physician would prescribe to-day quinine, strychnine, iodide of potassium, codeine, caffeine, or any chemical at all that you would manufacture yourself?

Don't you buy all the *most important* items in your store from some standard manufacturer?

Do you make *any* alkaloid you dispense? Who makes them? Somebody, but not you.

You must depend, your physicians expect that you do depend on some standard manufacturer. Therefore, if the physicians insist on a higher grade of preparations, as they unmistakably do, the pharmacists will not be slow in procuring them, or, fall back in line, and that they will not do as they all are unanimously in favor of raising the standard; and they can not all be mere talkers for show, and at heart be in favor of lowering the standard.

Let the discussion go on, and the standard will be higher just as sure as the railway took the place of team-transportation, although naturally the teamsters cried loudly against the higher standard of conveyance. To-day nobody thinks of going to New York by team, but takes the car, run by some monopoly, and the world at large is very grateful, that we can depend on this monopoly.

Since scribbling above I spent a very pleasant half hour in the dining car, a friend gave me a St. Louis journal giving an account of twelve druggists' attempts to investigate rhubarb powder. The number twelve seems to be a favorite one, for the Chicago journal alluded to above, challenges twelve chemist's analysis of twelve specimens. But it goes to show that the druggists actually must accept the purity of their goods *on good faith*, for the majority are not judges, even if they wanted to be, and are, whether they enjoy the cognomer or not, "mere peddlers;" it would not be hard to find twelve grocers in this country who can tell good rhubarb powder from poor, and we find in reality that some of the leading pharmacists rely implicitly on what their leading jobbers tell them. This was never better illustrated than in the case of substituting antifebrin for antipyrine on the say-so of a leading jobber. The druggist played the part of the peddler who knew nothing about a very powerful chemical except the price. Verily, verily, standardization seems to be desirable in many ways.

Yours, For full Discussion of Standardization.

Book Reviews.

Agricultural Experiment Station, University of California; E. W. Hilgard, Director. Bulletin No. 83.

This treats in a remarkably clear and popular style of the causes of the "Rise of the Alkali in the San Joaquin Valley." The treatment is indicated therein for tracts of land afflicted with the "alkali." Some interesting information in the chemistry of mineral plant food can be gained from the report.

Reports from the Consuls of the United States. No. 109, October 1889. Bureau of Statistics, Washington, D. C.

It is seldom indeed that these reports are not brimful of technical information relative to trade and commerce. The one before us is no exception, and it constitutes a volume of very interesting and useful information. Of the more technical items we noticed (p. 198), a report on "Adulterated Chicory," by Consul Fay, of Stettin, in which we are warned of shipments being made to this country of a substitute for that article made from dried and roasted beet roots. The substitution is harmless enough and attention is only called to it because it is sold here as chicory, and because, as we are told, the result of the importation of this German chicory substitute "has been to wholly stop the growing of chicory in our country."

Another report informs us (p. 342) regarding "Guatemala Rubber," of more stringent laws having been passed in the republic, relative to the protection of the rubber-tree from the bleeding process to which it had been subjected by careless natives. We learn that the probable effect of this will be an increase in the yield available for export.

L'Officine, ou Répertoire Général de Pharmacie Pratique. F. L. M. Dorvault: douziéme édition. Entièrement revue augmentée par F. Wurtz. Asselin & Houzeau, Paris. 1889. Pp. 1622.

The fact that the work before us has reached its twelfth edition is sufficient proof of the appreciation accorded it. It is, indeed, an encyclopedic treatise on the articles of materia medica in use in the various countries of the world, and every page bears witness to the truth of the claim made by the publishers regarding its enlargement and complete revision. We are tbe better able to prove this statement of the publishers because we have a copy of the previous edition before us with which to make comparison. Taking the index alone as a guide we find that this new edition contains in the neighborhood of 800 names additional, notwithstanding the fact that many of the more obscure or worthless articles have been deleted. Among the articles added in this edition are Cascara Sagrada, Pichi, Paraguay Tea, Gurjun Balsam, etc., and the list of the newer materia medica is so well represented that we even looked half expecting to find a mention of the recently recommended substitute for ipecacuanha, Cocillana, but this appeared to be expecting too much. We were a little disappointed to see our California Yerba Santa omitted from the list of additions, we think it as equally deserving of notice as Grindelia robusta, *Nutt.* The book is, however, the most complete of the kind with which we are acquainted. It occupies a position in a French Pharmacy somewhat like our Dispensatories do in America, but the scope of its subject matter is more extensive—ranging from a synoptical classification of plants (Synopsis du Règne Végétal) to a retail price list of drugs and prescriptions (Tarif Générale de Pharmacie). Turning to this at random, we open at Sulphates and see that 1½ grains "sulfate de morphine" retails at ten cents, 1 gramme (or 15½ grains) at fifty cents: Epsom salt, 1 hectogramme (or 3½ ozs.) at twelve cents; strychnine sulph., 1 gramme for 60 cents or one-tenth of a gram for ten cents, etc., etc. The druggists of many localities are in a position to take advantage of some such mutual arrangement and to them the book would almost be worth its purchase price for the tariff table alone.

Facetiæ.

MR. PESTLE'S TRIALS.

EDITED BY A. NOTHER.

He was the slickest man I ever saw, slick in his dress, slick in his manners, and slick in his talk. He came into my store one evening about two weeks ago; came in bowing and smiling, shook hands with me, floated into a chair, lit a cigar and said—well I don't know exactly what he did say, but at the end of an hour he shook hands again and bowed and smiled himself out, carrying in his pocket an order from me for a new pressure percolator and still, which were going to revolutionize my methods of business and greatly increase my profits. Long after he had gone I sat thinking over what he had said, and finally concluded that for a number of years I had been an egregious fool, paying the manufacturer a big profit for many of my pharmaceuticals when I might have been making them myself and saving money, but all this would soon be at an end. I had ordered a combination of apparatus which only required to be set going, like a clock, and it would faithfully grind out pound after pound of fluid extracts, etc., at an average saving of 25 per cent., at least so said the man of smiles and slickness who had just gone and no one could smile as he did and so warmly press your hand, while guile lurked in his heart.

In less than a week my new percolator arrived and was duly set up on a shelf especially prepared for the purpose, in my back shop. One of my first duties (at least so I considered it), after getting all connections made, was to invite our most prominent physician, Dr. Podophyllin, to step in and inspect the great addition I had made to my facilities for producing promptly and accurately the principal ingredients of his prescriptions. While he stood gazing on my treasure I explained how I

would from now on be in a position to independently produce some of those galenical products which were so frequently subjected to sophistication, and could assure my customers and medical friends of their purity, *because I had made them myself*. That was argument conclusive for the learned M. D. He warmly grasped my hand and said he would make it a point to influence his patients towards bringing their prescriptions for my dispensing. With encouragement of this nature, from so high a source, I was most anxious to get the apparatus loaded, wind it up and sit quietly reading or smoking while I watched the 25 per cent. profit quietly dripping into the receiver. I packed the percolators with a properly comminuted drug, filled the reservoir with q. s. of menstruum, hauled it up near the ceiling, made all connections according to specifications, and then lit a cigar and prepared to watch it drip. That was just a week ago yesterday, and that cigar is not yet half smoked. I sat and watched the receiver till I grew dizzy, but never a "drip"! I thought I must have packed the drug too tightly, and that stirring it up would accelerate matters. I stirred it up. I lost about a pint of alcohol in doing so, but then I knew I could recover enough with my new still to make that but a trifling affair. When I started things going once more, the menstruum went through with such a rush as to pull one of the tubes from its connections, and before I could stop the "flow of spirits" my percolator was playing a quarter-inch stream of dilute alcohol on the hot coal-stove, which left my store smelling like a distillery. By the time I got this fixed, the reservoir became exhausted. I let it down and refilled it; made all secure, and then started for dinner. When I got back I found the reservoir acting as a stand-up collar for the percolator, and the apprentice mopping up about half a gallon of dilute alcohol from the floor and table. The nail to which I had attached the rope holding the reservoir, had pulled out, allowing it to fall upon the percolator, which punched the bottom out of it. This was very discouraging, but I had vowed to manufacture my own fluid extracts or perish in the attempt. I had a new bottom placed in the reservoir, swung it into place again with a fresh half-gallon of menstruum, and at the end of four days I had secured two pints of fluid extract. I spent the afternoon of that day in testing my product and comparing it with other manufactures in my dispensatory. The fact that three separate investigations yielded three different results, did not prevent me feeling somewhat inflated at what I was pleased to call my success. I was as proud as a small boy with his first pair of top boots.

I took my quart of 25 per cent. profit home to show to my wife. She was visibly affected and considerably enthused, but when she found me slipping the bottle under my pillow before retiring, she uttered a positive protest. So I had to content myself with placing it on the dresser and watching it till it finally melted into my dreams.

The next morning I proceeded to get my still into operation and recover the surplus spirit. I knew I had already lost about three pints of alcohol in making two pints of fluid extract, but that was only an incentive to recover all I could from the exhausted drug. I was now thoroughly interested in the home manufacture theory. I left my store entirely in the hands of my apprentice, a lad fifteen years of age, took off my coat and vest, rolled up my shirt sleeves, and made ready for a couple of rounds with the still. Somehow things did not run along as smoothly as I wished. First one joint would leak, then a jet of steam issue from another, while a glimpse into my store did not mend matters. A dozen customers were impatiently waiting till my boy could guess where he would find what they wanted; some helped themselves, and wrapped their own parcels. The last straw was the breaking of a pipe-joint, and the consequent application of a stream of hot water to the back of my neck. I got mad. I jerked that still down on the floor and commenced doing a vervid song and dance upon it. A friend happened to drop in at that moment, saw how inadequate I was thus unaided, to grapple with the difficulty, quietly slipped out, and presently returned with an axe.

Tears of gratitude filled my eyes as he placed it in my hands. With a method born of white-heat rage, I placed the percolators and reservoir along side of the still, seized the axe, and in ten minutes all that was left of that once handsome twenty-five-per-cent.-gaining labor-saving apparatus was about one hundred strips of a fine grade of sheet copper. I took a piece of chalk and on the wall of the back shop made the following array of facts:

DEBIT.		CREDIT.	
To apparatus........	10.00	By 31.5 pounds of sheet copper at 12 cts. per pound	3.78
" loss of time......	22.90	By 2 lbs. fld. ext. @ 48 cents	.96
" " " custom....	100.00	By one axe...........	1,25
" " " temper....	4.80		
" one suit of clothes	35.00		
" one axe..........	1.25		
" loss of drug, etc..	21.35		
	$195.30		$5.99
		Total loss $189.31.	

The foregoing experience has cured me of the mania for manufacturing and running a small retail store at the same time. The percolator may be a success; the still may be perfect, but in the hands of a pharmacist who has quite enough to do to attend to his customers and dispensing, and knows but little about the intricacies of mechanical appliances, it is simply lunacy.

Any person wanting 31½ lbs. of a fine quality of sheet copper, but little the worse for wear, can hear of a bargain by addressing the undersigned.

Yours, sadder and wiser,
JOHN PESTLE.

A SHREWD PATIENT.—A country lad in the north of Scotland had his leg injured at the factory, and was treated for some time by the local doctor without markedly favorable result. His mother had great faith in a certain "bone-setter," and wanted her son to go to him, but the boy objected, preferring, as he said, the "reg'lar faculty."

Finally, however, he yielded to his mother's persuasions, and was taken to the town where the famous bone-setter resided.

The leg was duly examined, and it was found necessary to pull it very severely "to get the bone in," as the quack expressed it. The patient howled in agony, but at last the bone was "got in," and he was bidden to go home; in a few days he would be all right and could resume work.

"Did he na dae it weel? Said the joyous old lady as they started homeward.

"Ay, mither," said the lad. He pullit it weel; but I was na sic a fule as to gie him the sair leg!"—*Whitehall Review.*

A CUSTOMER WHO CONTINUES TO DO THE BEST HE CAN.—On page 299 of our December issue we gave our readers the benefit of some illustrated correspondence from a retail druggist to a wholesale drug house. Since that date the Kansas pharmacist wrote, as follows:

"We hand you herewith P. O. order for $50.

"We are doing the best we can for you. We think of the account a hundred times, while you meditate upon it once. We expect to pay interest on our account when over due."

And he illustrated his meditations, as follows:

From Meyer Bros. Druggist.

THE GRIPPE.—A poem in two spasms and a convulsion, by Nedgar Allen Po, M. D.

Speak! O lovely Ann Eliza, with a terrible coryza,
And a wheezing respiration, full of sighs and husky moans;
With a constant lachrymation, and a nasal intonation,
From catarrhal inflammation o'er the turbinated bones.

Why! thou young and happy maiden, is thy conversation laden
With a copious addition of abortive b's and d's?
And from whence did you derive a, red and swollen conjunctiva,
And a frequent inclination to incontinently sneeze?

If this malady outrageous, which you suffer, is contagious,
Epidemic or endemic (?)—tell me whence the thing arose!
Where its place of incubation, what its future destination?
Spoke the lovely Ann Eliza, smiling sweetly, "No one nose."

—*Med. Brief and Nat. Drug.*

THE PILLS.—

Hear the rattle of the pills,
Quinine pills!
What a timely train of thought
Their melody instills!
As they rattle, rattle, rattle
In their little paper box—
What a tuneful tale they tattle
Of the daily bronchial battle
With the grip that Dame Pandora now unlocks
As we sneeze, sneeze, sneeze,
In a sort of windy wheeze.
While the jolly little rattle so dispels our future ills,
With the pills, pills, pills, pills, pills, pills, pills.
While the aching and the quaking fade away like August rills
At the hopping and the popping of the pretty little pills,
At the rolling and controlling of the most puissant pills,
At the chatter and the clatter of the pills.

BLANK AND THE EPIDEMIC.—

"The influenza germ, we hear, is bounding on its way,"
Said every daily paper for a month from day to day;
"Has reached Berlin! Is now at Rome! To Copenhagen spreads!
And Frenchmen everywhere complain they have it in their heads."
And then the little paragraph to half a column grew;
Next day the *Standard* gave a col, and the *Telegraph* gave two;
For somebody at Hammersmith 'twas said had gone "Atchew."

And soon Lord Salisbury kept his bed, and Mr. Labouchere
Prescribed for all the world in *Truth*, and helped along the scare.
Four colums now we got per day in *Times* and *Daily News*,
The *Pall Mall* sneaked prescriptions from Mackenzie, Clayton, Roose.
And down went one in every ten, in mansion and in mews;
Actors broke down, and clergymen discoursed to empty pews;
And, book-keepers being bad, no Christmas bills were sent,
While lots of tenants found themselves too ill to pay the rent.
And some thought whisky cold was best, and some said whisky hot
But everyone agreed that it was wise to take a lot.

Now Mr. Blank, the pharmacist, whom all our readers know,
Was looking out for something live to make his physic go.
So when he read about the germ, says he, "I am on the track;
I'll offer something, first of all, that's bound to keep it back.
A cure for when it comes stands next; and, lastly, I will sell
A tonic, to take afterwards, until the patient's well."
With that the sly old fox withdrew into his private den,
And studied hard the *C. & D.* for twenty minutes. when
He wagged his head, sardonic smiled, and, seizing a quill pen,
Scribbled a handbill boldly headed, "Cure for Influen-
Za;' sent it to the printers, and ordered thousands ten.

So, when the scare had started, Blank had his handbills done,
And his shop presented the appearance shown in Figure 1.

FIG. 1.

That was a Monday; but, before the week was halfway through,
The passer-by would recognize what appears in Figure 2.

FIG. 2.

And this went on week after week, for people took all three,
The prophylactic and the cure, and the tonic (A, B, C).
And Blank himself was the only man, 'tis said, in all the town,
Who never took a single dose, and still he is not down.

—*Chemist and Druggist.*

Abstracts and Translations.

Vaseline Pomades.

In the following formulæ the fatty basis consists of 3 parts of white vaseline and 1 part of ceresin (purified mineral wax). These substances should be melted together, and placed in a warm porcelain vessel, the coloring matter added, and the whole diligently stirred until the mixture is of the consistence of thick cream; then add the perfumes, and pour into pots or bottles:

Pommade à la Rose.

Fatty basis	1,000 parts.
Oil of rose geranium	15 "
Oil of bergamot	6 "
Oil of neroli	2 "

To be colored a faint red with alkanet.

Pommade à la Héliotrope.

Fatty basis	1,000 parts.
Oil of cassie flowers	7 "
Oil of bitter almonds	3 "
Oil of cinnamon	2 "
Peruvian balsam	9 "

Pommade au Réséda.

Fatty basis	1,000 parts.
Oil of bergamot	8 "
Oil of bitter almonds	6 "
Oil of neroli	4 "
Oil of ylang-ylang	1 "

To be colored green with spinach.

Pommade au Citron.

Fatty basis	1,000 parts.
Oil of lemon	10 "
Oil of bergamot	2 "
Oil of citronella	2 "

To be colored yellow with gamboge.

Pommade aux Oranges.

Fatty basis	1,000 parts.
Oil of orange-peel	10 "
Oil of bergamot	2 "
Oil of rose geranium	2 "

To be colored orange with annatto.

Chemist and Druggist.

Hot Soda Water.

"Hot soda," as is well known, is not soda at all, but hot water drawn on a flavored syrup or extract. Some druggists in this city have a hot water pipe running through the draught arm of their counter apparatus. This helps to carry out the idea many patrons have that they are drinking hot carbonic. The usual method, however, is a small heating apparatus with a boiler attachment connected with the water pipe. Most of apparatus manufacturers can supply it.

There are as many and varied "hot" drinks as the fancies and tastes of customers. The list of the regular hot beverages, however, that really appear to be compatible by nature and taste with hot water, is quite small. If you draw hot coffee, tea, chocolate, and beef tea, you will fill most of the orders you will have. Occasionally you will have some one call for raspberry or strawberry syrup, but not often.

Beef tea with celery is a very popular "hot soda" beverage, and it is also bracing and stimulating.

The following is the best recipe. Under the name of "Ox Celery" one druggist in this city sells fifty gallons a day of this hot drink over his soda counter:

Maranta	av. oz.	2
Ext. beef	"	16
Salt	"	4
Ext. celery	"	2
Ext. savory	"	1½
Hot water	gall.	1

Tincture capsicum may be added if desired, or a few drops put in the mug when drawn.

The practice of the leading stores here is to have concentrated extracts of tea, coffee and chocolate ready; put a small quantity in the mug or glass, fill with hot water, and then drop in a block or two of sugar, according to taste. Others keep the syrup of tea, coffee, and chocolate, and draw the hot water on them, but the sweetness cannot be so readily adapted to the taste of the drinker as in the former method.

Silver-plated mugs, with non-conducting handles, are sold by some houses for hot soda, and are quite elegant.—*American Carbonator.*

Frangulin.

At a meeting of the Chemical Society, Professor T. E. Thorpe, F. R. S., and Mr. H. H. Robinson, M. A., described how they prepared the glucoside frangulin from *Rhamnus frangula* bark by first extracting with low-boiling petroleum to remove fat, and next with methylated spirit, which removed the frangulin, together with resins, etc. To this extract lead acetate was added to precipitate tannins, and after removing the excess of lead in the filtrate by means of sulphuretted hydrogen, the frangulin was obtained from it. Fourteen pounds of the bark gave about 5½ grams of frangulin.

Seven analyses were made of four different portions of frangulin which had been purified by different methods, and the results agreed with one another, and corresponded to the formula $C_{22}H_{22}O_9$. For every analysis the frangulin was dried at 120° until constant.

The frangulin was hydrolyzed, and the yellow product insoluble in water was analyzed, in two cases after crystallizing from alcohol and drying at 120° until constant, and in two cases after crystallizing from benzene and drying at 180°. The results correspond to the formula $C_{15}H_{10}O_5$. The product was directly compared with some emodin from rhubarb, and was found to give the same color reactions, and the authors are satisfied as to its identity with that substance.

A phenylhydrazine-derivative of the product soluble in water, and which has the power of reducing Fehling's solution, was prepared, and compared with that obtained from glucose, and was found to possess quite different properties; hence it is concluded that the soluble product of the hydrolysis is not glucose. It is the subject of further investigation by one of the authors.—*Chemist and Druggist.*

The Dangers of Sulphonal.

Marandon de Montyel has had evil experience with sulphonal, though he, to be sure, administered it in rather large doses. He often had occasion to observe symptoms of poisoning—sensations of cold and shivering, nausea, vomiting, dysentery, paralytic weakness, dizziness, etc. He reports on a series of instances:

Man aged 70. Senile excitability; insomnia. Four grammes of sulphonal without result. Five grammes also failed to produce sleep, causing only a condition similar to drunkenness, reeling, clumsiness, impediment in speech. Recovery after a few days.

Man aged 20. Melancholy and apprehension; insomnia. Two grammes of sulphonal without result; after four grammes, sleep for six hours; then reeling, vomiting, speechlessness.

Inebriate aged 37. Two grammes of sulphonal without result; after four grammes, sound sleep; then pronounced poisoning.

In the case of a strong paralytic, two grammes were without result, as were also four grammes during two nights. Sleep then ensued, followed by a stupor which lasted three days.

Two grammes were almost always without result. Four grammes were then given in several cases, and poisoning then followed. This was experienced with thirteen patients suffering from mental aberration and insomnia. Only in the instance of one maniac who took four grammes for five days, did sleep and quiet result without collateral effects.

M. Montyel then tested the virtue of three grammes, but without success—at times no results, at other times poisoning.

He was not disposed, however, to give up his tests, but sought rather to utilize the cumulative effect of the remedy, administering two grammes until a seven-hours' sleep resulted. He then interrupted the medication, and returned to the sulphonal only when the period of sleep sank below five hours. He proceeded thus with 25 patients suffering from mental affection. The result was favorable only in 12; in the other 13, poisoning ensued eleven times, which was all the more disturbing as it was altogether unexpected.

Prof. Mairet, has had a very similar experience. He therefore first resorted to a single dose of four grammes; the next day he gave only one gramme, and repeated the four grammes only when sleeplessness returned. This method M. Mairet employed with 27 patients who were mentally affected, but also failed to find this satisfactory. The large initial dose caused disturbances, and with one gramme insomnia quickly returned. The effects were in a degree satisfactory only in 13 cases; in 11 cases serious poisoning resulted.—Moebius, in *Schmidt's Jahrbücher.*

Lister's New Antiseptic Dressing.

We have already mentioned that Sir J. Lister has in the preparation of his new dressing given up starch for gentian violet, the latter being the better fixer of the double cyanide. Since his second paper was read, he has been mortified to find that some gauze charged by aid of gentian violet dusted to a very inconvenient degree. This appeared to be due to the bichloride of mercury, which interferes, to a certain extent, with the precipitation of the gentian violet. He has found that there are several coloring-matters which answer the purpose fairly well. Thus both carmine and prussian blue attach the cyanide to a cotton fabric perfectly, so long as it is moist, but when it is thoroughly dry they are not very good as regards the question of dusting. The dye which complies best with all the requisite conditions is hæmatoxylin. The manner in which he has found it best to use this substance is as follows: It is incomparably better to apply it to the fresly-precipitated and wet cyanide than to mix it with the salt after its particles have been aggregated in the process of drying. The moist precipitate is thoroughly diffused with pestle and mortar in distilled water (6 oz. for every 100 grains of potassium cyanide), containing in solution 1 part of hæmatoxylin for every 100 parts of the cyanide. The cyanide salt, while it precipitates the hæmatoxylin, changes its color to a pale-bluish tint. This is advantageously enhanced by the addition of a little ammonia to the mixture, in the proportion of 1 molecule of ammonia ($NH_3=17$) to one of hæmatoxylin ($C_{16}H_{14}O_6 3H_2O=356$). More than this proves prejudical. The ammonia is added in a dilute form, and it is convenient to have the dilution such that 1 fluidrachm of the ammoniacal liquid shall correspond to 1 grain of hæmatoxylin. The dye is further economized by allowing the ammoniacal mixture to stand for three or four hours and stirring it occasionally, so that the ingredients may react thoroughly upon each other. If the mixture is filtered immediately there is considerable loss of coloring matter. The dyed salt having been drained and dried at a moderate heat is levigated, and may then be kept for any length of time fit for use. When employed for charging a dressing, it is diffused by means of pestle and mortar in solution of bichloride of mercury (1 to 4,000) in sufficient abundance to drench the fabric thoroughly, for which 4 imperial pints to 100 grains of the salt will be found adequate. This will give a percentage of between 2 and 3 of the cyanide to the dry gauze.—*Chem. and Drug.*

Pepsin and Pancreatin.

The Americans are proverbially dyspeptic. The feverish haste of our social as well as our business life is trying to the economy. We do not sleep enough or rest enough. We eat fast, work fast and live fast generally. However, this condition seems inseparable from the age and from our position among nations. What with a vast continent of as vast resources waiting to be subdued and the drain which its sparsely populated districts makes on its more thickly settled portions, both for men and money, all contribute to an explanation of the crowding of years of life into months and weeks, when estimated by accomplishments. Will the eventual result be a modification of our structure which will enable us to stand the strain, "a descent with difference," which will adapt us to these surroundings, or before this time arrives will the conditions of life have changed? We are a race of dyspeptics and moreover those diseases prevail which are traceable to nervous strain. Physicians, as the guardians of public health, are called upon to combat the evil effects while the cause remains still in operation. The quack also finds a rich field for operations and nerve foods, nerve tonics, and vita nuovas abound. To the control of the evils of dyspepsia and indigestion, studies of the physiology and chemistry of digestion have contributed not a little. Perhaps chemistry, or that branch of physiology which is on the border-land of chemistry and known as physiological chemistry has done the most. Casually we may remark on this aid to physiology. Chemistry is indeed the handmaiden of all sciences and all arts. It is often the reliance and frequently the court of last resort in many a scientific investigation; it assists more and is assisted less than any other branch of science. Its aid to the scientific investigation of nutrition is an illustration of this. Physicians studied the physiology of digestion, but chemists sought an explanation of the process in the all-pervading laws of chemism, and having determined the nature of the chemical and physical changes which the food undergoes, sought for the agents which induced these changes, and having found them and separated them in a state of more or less purity, it then comes within the province of the physician to try these products clinically and determine their therapeutic applicability, and we are now come to the time of the use of pepsin and pancreatin in the treatment of dyspepsia and indigestion and the consequent baneful effects of these conditions. How well these united efforts have succeeded we may judge from the present status and quality of the pepsin and pancreatin market. In such an intricate and delicate undertaking it was but natural that failure, as we should now term it, should be the result of the first endeavors. But as we must learn to creep before we can stand, and stand before we can walk, so it was necessary to pass through this painful but educating stage in the manufacture of pepsin and other digestives. 'Tis true that both pepsin and pancreatin were obtained in a high degree of purity long before they became articles of commerce, but the difficulty lay in manufacturing them at a price which would place the agents within the reach of the most humble. To those who have had occasion to examine more or less continuously the digestive ferments of pharmacy during five or six years now passed, the improvement in quality is not only apparent but highly gratifying, and bears testimony to the advance which follows continuous and prolonged effort when stimulated by commercial principle.

We may safely say that today there are pepsins on the market fully five times the strength of the best pepsin offered the trade at the beginning of this decade. Four years ago we examined every pancreatin offered the trade in England and America. Among twenty or more samples offered the trade there were but three which could be considered superior to sawdust. These three were good and excellent articles. Two of these were of American manufacture and one was English. To-day it is scarcely saying too much that the poorest pancreatin offered the trade is as good as the best offered it four years ago. In the competition and with the incentive of large and increasing use, manufacturers have steadily increased the quality of their products and scarcely a month passes which does not witness further improvement. With this the state of affairs we may fairly concede that the future of the digestive ferments is assured.—*New Idea.*

Pharmaceutical Progress.

INCOMPATIBILITY OF COCAINE AND BORAX.—Cocaine and borax are incompatible, the alkaloid being precipitated as an insoluble borate. This difficulty does not attach to boric acid and cocaine.—*Drug. Circular.*

AMMONIA IN COCAINE POISONING.—A case of poisoning from a comparatively small quantity of cocaine is described by Dr. Golovkoff in the 'Proceedings of the Caucasian Medical Society' in which ammonia was successfully used to restore the pulse and respiration to their natural condition. The ammonia was given internally in doses of a few drops every five or ten minutes, and liquid ammonia also given to the patient to smell. In about two hours the patient had quite recovered.—*London Lancet.*

NEW TESTS FOR ALKALOIDS.—These are solutions one to twenty respectively of potassium rutheniate, potassium per-rutheniate, and ammonium uranate, in strong sulphuric acid, specific gravity 1.184. With the first of these, solanine in a few minutes gives a red coloration; chelidonine gives a green, with the per-rutheniate, imperatorine gives a blue coloration, quickly changing to deep green; with ammonium uranate, the solution to be always freshly prepared, imperatorine gives a blue coloration, which soon disappears, especially if heat be applied; codeine, slightly warmed, a blue; morphine, also slightly warmed, a dirty green, soon disappearing.—*Jour. de Pharm. et Chim.*

A NEW METHOD OF ESTIMATING HYDROCHLORIC ACID IN THE STOMACH.—A new method has been proposed for estimating free hydrochloric acid in the stomach contents. These are evaporated to dryness with baric carbonate, and then incinerated, by which means the organic salts are burnt, the baric chloride present being unchanged. The latter salt is then extracted with water, and the dissolved barium titrated by the addition of potassic bichromate. This standard solution of the latter is best made of such a strength that each cubic centimètre corresponds to 4.05 milligrammes of hydrochloric acid. When it is added to the barium solution, a precipitate, insoluble in water and acetic acid, is formed, the yellow color which appears with the smallest excess of the bichromate being the indicator of the end of the reaction.—*British Med. Journal.*

ACCURATE PROCESS FOR ESTIMATING URIC ACID.—Camerer proposes the following as an accurate process for the estimation of uric acid. To the urine of the twenty-four hours is added some soda solution (1 to 2 grammes in the litre of water) to precipitate the phosphates, and water is added to bring the specific gravity to about 1010; 50 cubic centimètres magnesia mixture (mag. sulph. 1, ammonic chloride 2, ammonia 4, and water 8) and added to 300 cubic centimètres of the urine mixture, and the precipitate removed by filtration. To a measured amount of the filtrate some finely-divided calcium carbonate is added, and then about 5 cubic centimètres of a silver nitrate solution (3 per cent.). In the precipitate, when collected on a filter and washed and dried, the nitrogen is determined by Kjeldahl's method, and from this the uric acid is calculated.—*British Med. Journal.*

THE INJECTION OF SODIUM CHLORIDE AS A STIMULANT OF THE DIGESTIVE SECRETIONS.—Girard found by injecting sodium chloride into the rectum he increased both the amount of the gastric juice and the percentage of hydrochloric acid, the pepsin also being apparently increased; but the same results did not follow the injection of other chlorides.

The most generally accepted theory as to the origin of hydrochloric acid in the gastric juice is that the lactic acid formed from the carbohydrates sets hydrochloric acid free by acting on the sodium chloride. Now, acidity tends to stop fermentation processes, and in experiments with artificial gastric juice Cohn has found that, while pepsin itself appears to favor acetic or lactic acid fermentation, this is hindered by even traces of hydrochloric acid; the artificial gastric juice containing both bodies likewise hinders it, but not so powerfully as the acid alone; in the presence of peptone, however, no hindrance of the fermentation is produced at all.—*British Med. Journal.*

THE RESINS OF CASCARA SAGRADA.—John Findlay, in a paper read before the Edinburgh Chemists' Association, and reported in *Druggists' Circular*, February, '90, confirms the investigation of the medicinal principles of cascara sagrada reported by Messrs. Webber and Meier in *American Journal of Pharmacy*, February, '89. He writes as follows:

"While working with cascara it occurred to me that I might be able to separate some of the resins to which the bark is said to owe its activity. In none of the literature I have seen, is there any mention of how these may be prepared. Following the eclectic process, I made a rectified tincture of cascara (1 to 8) evaporated to one-tenth of its volume, and poured it in a gentle stream into water acidulated with hydrochloric acid. By this means a substance was precipitated which acts as a laxative in doses of 6 grains. It is evidently a resin.

"I next prepared a proof spirit tincture, and proceeding in the same way obtained a resin, but not in such large quantity, though evidently more active. I therefore concluded that some inert body was extracted by the rectified spirit and not by the proof, so that the first resin is a mixture of two.

"I then percolated the marc from the rectified tincture with boiling alcohol, and on concentrating and precipitating as before, a whitish brown resin separated. Just when I had got so far with the experiments I found that some American gentlemen had been working at the same subject and had prepared the resins in a similar manner. I have samples of the resins here, but as I have been anticipated I need not pursue the subject further."

BALSAM PERU INJECTION.—In answer to a correspondent, the *Western Druggist* gives the following formula of balsum Peru for injection in tuberculosis:

℞	Acacia, powd	30 grains.
	Balsam Peru	1 fluidrachm.
	Solution sodium chloride	45 minims.
	Water, distilled, to make	5 fluidrachms.

The gum is mixed with an equal amount ot water, and to this is added the balsam Peru, drop by drop, under constant trituration. After the emulsion has been completely effected, 2 fluidrachms of distilled water are added, then the solution of sodium chloride, and finally distlled water sufficient to the measure. The emulsion is then neutralized with a solution of sodium bicarbonate, and in quantities of from 1 to 2 drachms placed in sterilized test-tubes, stoppered with cotton and subjected to the action of steam for one hour, until completely sterilized. The physiological solution of sodium chloride contains 6.10 per cent. of salt, or 27.7 grains to the fluidounce of distilled water. It is supposed to represent the liquid in which the blood corpuscles float, "the liquor sanguinis."

DIURETIN.—Under the name "diuretin," a sodio-salicylic compound of theobromine, corresponding to one of the so-called soluble salts of caffeine, has been introduced as an advantageous diuretic (*Apot.-Zeit.*, Dec. 14, p. 1338). According to Dr. Gram, of Copenhagen, theobromine is a diuretic, acting directly upon the kidneys, differing from caffeine in not affecting the central nervous system, and therefore not causing sleeplessness and restlessness. It is said to have produced satisfactory diuresis in cases of renal and heart diseases, in which digitalis and strophanthus have been without effect. But as the free alkaloid requires about 1600 parts of water for its solution, it is not readily absorbed, and gives rise to disturbance of the stomach. Diuretin, on the other hand, is alleged to produce the beneficial effects of theobromine without the unpleasant symptoms. It is described as occurring as a white powder containing 50 per cent. of theobromine, dissolves with the aid of heat in less than half its weight of water, and remains in solution after the liquid has cooled. It is administered to the extent of about six grammes daily, in one-gramme doses.—*Pharm. Journ. and Transactions.*

ALOES IN CASCARA SAGRADA EXTRACT.—A few months since a statement appeared in an American journal to the effect that fluid extract of cascara sagrada had been met with, containing aloes (*Drug. Bull.*, July, p. 288). Accordingly Herr Reuter was induced to experiment as to the best means of detecting the presence of such an adulterant. From the results obtained he is of opinion this is to be found in the application of Klunge's cupraloin reaction (*Pharm. Zeit.*, Dec. 7, p. 745). Two drops of the extract are diluted with 10 c. c. of water so as to form a faintly yellowish colored liquid and five drops of 10 per cent. solution of sulphate of copper added. Herr Reuter says that liquid extract of aloes treated in this way gives a yellow color; a genuine liquid extract of cascara sagrada a blue green color; and a mixture containing equal quantities of the liquid extracts of cascara sagrada and aloes a yellow color. Upon the addition then of about 2 c. c. of a 20 per cent. solution of sodium chloride and a few drops of alcohol, the liquids from the extract of aloes and the mixture of the two immediately assume a purple red color, while that from extract of cascara remains unaltered. As the reaction is somewhat obscured by the suspended resin, ten to twenty drops of the extract may be evaporated, the residue taken up with water, the liquid filtered and to the filtrate ten to twenty drops of the copper sulphate solution added, followed by some sodium chloride and a few drops of alcohol, when the reaction occurs with great sharpness. In a later communication (*Pharm. Zeit.*, Dec. 14, p. 761), Herr Reuter's communication is somewhat sharply criticized by Herr Conrady, who expresses the opinion that extract of cascara sagrada is much more likely to be adulterated with extract of *Rhamnus Frangula* than with extract of aloes.—*Pharm. Jour. and Trans.*

TWO NEW SUGARS IN ASPIDOSPERMA QUEBRACHO.—I am glad to be able to announce to you that I have just discovered two new sugars in *aspidosperma quebracho*. One of them I obtained directly, and the other through a decomposition of the first product.

The preparation of sugar of quebracho is long and complicated, as you will readily understand from the fact that the quantity of sugar present is but one part in 1000 parts of quebracho. I am not sufficiently familiar with the English language to be able to describe the process in detail, but will give a recapitulation of the principal characters of the products.

The formula of the new composition is:

$$C^7H^{14}O^6, \text{ or } C^{14}H^{14}O^{12} \ (C = 6, O = 8).$$

The crystals are rhomboidal and anhydrous, soluble in 1.7 parts of water at 10° C., and slightly so in alcohol; specific gravity, 1.52. It melts at 186–187° C., and it volatilizes at about 210° C. *in vacuo*. It is levogyre, x [D] = —80. I name the new sugar quebractite.

Quebractite is not fermentable and does not reduce Fehling's liquor. It changes under nitrate of silver and ammonia, with heat. Dilute acids and boiling potash solution do not sensibly attack it. With sulphuric acid it gives quebrachi-sulphuric acid; with acetic acid it gives acetic ether; with fuming nitric and sulphuric acids it gives their respective ethers. By analysis these ethers must be classed among the alcohols. Treated with nitric acid, quebractite gives the reaction of inosite.

Boiled with hydriodic acid it gives:

1. Methyl iodide—boiling at 43° 5 C.—and a new sugar.

2. Benzin—thus placing quebractite within the aromatic series.

Dried at 100° C., the formula of the new sugar is: $C^6H^{12}O^6$.

Crystallized, it is: $C^6H^{12}O^6. \ 2H^2O$.

With nitric acid it gives the reaction of inosite, but differs in its other properties.

It melts at 238° C. It dissolves in 23 parts of water at 12° C. (Inosite is soluble in 10 parts). It is only slightly soluble in alcohol, and it is insoluble in ether. Finally, this sugar is levogyre × [D] = —55°.

I name this new sugar levogyre inosite.—C, Tanret in *Pharmaceutical Record*.

Notes and News.

THE ILLINOIS COLLEGE OF PHARMACY will hold its graduating exercises at the Grand Opera House, Chicago, February 25. On the 22nd the classes will visit the Northwestern University and take part in the celebration of the annual "University day." The Faculty will have but a brief vacation, as another course of twenty weeks begins March 13.

THROUGH an error of our proof-reader, the article on "Glycerin Enemata—Glycerin Suppositories" in January number of *Druggists' Bulletin*, was not credited to its original source, namely, "*The New Idea.*" We have pleasure in now giving due credit to its author, H. W. Snow.

ANNUAL MEETING OF THE PHARMACISTS' CLUB.—Boston can boast a Pharmacists' Club.—The annual meeting of this organization for the election of officers, was held recently.

After a bounteous dinner had been served the election of officers took place, resulting as follows: President, T. H. Hearn; Vice-president, J. W. Colcord; Secretary and Treasurer, C. E. George.

Brief speeches were made by the incoming officers in acceptance of their positions for the ensuing year.

The club is in a flourishing condition, new members being admitted at each meeting.—*N. E. Druggist.*

THE PHARMACOPŒIAS OF THE WORLD.—At the Scientists' Congress at Heidelberg, Vulpius gave some interesting details concerning the various existing Pharmacopœias. Twenty are now in use, supplements, etc., bringing the total to about forty volumes. The French Codex contains the greatest quantity of subjects, namely, 2,039, and the Norwegian Pharmacopœia the least, 519. In the French there are 106 syrups, while the German has but 20, and the Norwegian only 9. England and the United States are the only countries that still retain the old system of weights, all the others using the decimal system. One hundred and fifty drugs are common to all the pharmacopœias.—*Drug. Circular.*

THE SALE OF A WELL KNOWN DRUG BUSINESS.—There was a notable business transfer in New York City on December 30th, last. Alexander Hudnut's two drug stores, at 203 and 218 Broadway, were sold to H. T. Cutter and George Ramsey, the consideration being, it is said, $250,000. Immediate possession was given.

Mr. Cutter came here from Philadelphia, about a dozen years ago, and organized a corporation to conduct Hegeman & Co.'s store at 203 Broadway. Mr. Cutter was president, and Mr. Ramsey secretary and treasurer. Last year the property passed into the control of Mr. Hudnut for $100,000, and Mr. Ramsey was continued as manager, until he and his associate effected the purchase above mentioned.

Alexander Hudnut started the store in the *Herald* Building, and has been there ever since it was built, a quarter of a century ago.—*Drug Circular.*

THE PHARMACIST'S TOAST.—May his occupation never become a drug in the market, as long as he sticks—like his own plasters—to business! May he never be bruised in the mortar of adversity, by the pestle of misfortune, and may his rise in his profession be as accurately marked as his graduated measure. May his career be as unsullied as distilled water, and as smooth and pleasant as pure Narbonne honey; may his success never be alloyed by a mixture of ill-luck, or a tincture of regret; may his counter prove the crucible whereby he transmutes human ailments into precious metal, and precipitates the golden deposit into his own pocket. May he never be called to swallow the bitter pill of disappointment, or be macerated in the cruel spirit of enmity; should fickle fortune ever refuse him her smiles, may he find an antidote in the soothing opiate of woman's love; be strengthened by the tonic of experience, and purified by the sudorific of patience. Thus—his best days being evaporated, and the lamp of existence past trimming—when Dr. Death sends to his shop the dreadful prescription endorsed "To be taken at bed time," may he be found "carefully prepared," accurately dispensed, permanently entered in the day-book of memory, neatly put up in the white wrapper of purity, sealed up with the melting tears of friends, stamped with the trade-mark of honesty, and duly labelled and directed for heaven.

THE PHARMACIST AS A VOTARY OF HYGIENE AND BACTERIOLOGY.—Mr. E. Ritsert, in a paper read before the pharmacy section of the German Association of Naturalists and Physicians, thus incites the pharmacist to extend his profession to include hygiene and bacteriology:

The sciences that were once embraced by that art and medicine have been developed to a condition of independence that leaves pharmacy in the background. A still further limitation of the field of pharmacy has been brought about, and is still progressing, in consequence of the production of chemicals and other products on a large scale at such low prices that the pharmacist can no longer offer the products of his laboratory in competition with them. And, moreover, the free sale of drugs by general dealers has begun to encroach upon what was regarded as the most indisputable right of the pharmacist, to the exclusive sale of medicinal articles. Every year, also, prescriptions are becoming more simple, and, all things considered, it is probable that even under the favorable conditions that obtain, the field of pharmacy will be still more restricted if no effort be made for conservation, and by advancing with the spirit of the time, to acquire new ground for profitable activity. The increased demand now made upon those seeking admission to the pharmaceutical body is a sign of the desire to keep abreast of modern scientific grogress. But as pharmacists must always keep in view the practical as well as the scientific aspects of their calling, it is suggested by Mr. Ritsert that both purposes might be served by turning attention to the study of hygiene and its methods of investigation. By qualifying himself for the examination of water, air, soils, and articles of food or drink, as well as for conducting inquiries connected with bacteriology, the pharmacist would not only have extended the range of his scientific knowledge, but also opened up a new field for advantageous occupation.—*Pharm. Journal.*

BUFFALO LITHIA WATER IN THE TREATMENT OF STONE IN THE BLADDER—ITS SOLVENT PROPERTIES—ITS VALUE IN BRIGHT'S DISEASE, CYSTITIS, ETC.*—I have for many years been prescribing the use of the Buffalo Litha Water in cases of lithiasis, uræmia, Bright's disease, cystitis, and of congener affections, and with the same marked results which have followed its exhibition in like conditions by a number of other physicians. The most striking instance, however, in which I have seen the solvent properties of the waters manifested has been in the case of Mr. Thos. D. Moss, of this city. Mr. Moss had been subject to attacks of lithiasis for several years, but in August last, after one of the most violent attacks of nephritic colic, passed gravel from the kidney into the bladder, where it remained for a week or more, setting up a severe inflammation of that viscus, with all of its painful and distressing symptoms. Finally, however, the gravel recommenced its journey, and became lodged in the prostatic portion of the urethra, cutting off the flow of urine and causing retention. Being compelled to use a catheter for the relief of this symptom, I pushed the calculus back into the bladder, as there was too much inflammation to resort to either the crushing of the stone or to its removal by lithotomy.

I put the patient to bed, restricted him to a milk diet, administered opium suppositories in sufficient doses to relieve vesical tenesmus and pain, and directed him to drink the Buffalo Lithia Water in the largest quantities which he could bear. He succeeded in drinking from a half gallon to a gallon every twenty-four hours, and, at the end of about ten days, commenced to pass the detrita of the gravel, as I suppose, in quantities which seemed incredible. At all events, after passing his water upon a clean board, and allowing as much of it to flow off as would, you could then scrape up with a knife a teaspoonful or two (after every passage of urine) of phosphates, urates, etc., closely resembling whitewash which had been applied to the board, and which had there dried.

This continued for a week. I then washed out the bladder several times with a warm solution of boracic acid, and Mr. Moss was soon on his feet again. At this writing he says that he is perfectly well, and feels, for the first time in many years, entirely free from all kidney or bladder trouble.

OLD MEDICINE JARS.—It may be interesting to see a brief notice of some of the "simples" that were used in their medical practice by the monks of Italy in the 16th century. My information is derived from old medicine jars taken out of suppressed monasteries, and now forming part of a collection of *Faience* and *Urbino* ware in the National Museum at Florence. The jars are of two sizes, holding respectively two and four quarts, and are of the usual elegant shape of waterpots in this country, with two handles and a short spout like that of a teapot. All are tastefully, though not very artistically painted in colors on a white ground, and bear as their device the figure of a monk holding in his hand the particular flower or herb that forms the chief ingredient of the medicine.

The larger jars, why, I know not, bear on their front the bust potrait of some Pope, and most of these are not labelled. The labels are painted near the base of each jar, and give the Italian names of their contents, with many abbreviations not always easily decipherable. One especially, which I give *literatim*, was very difficult to interpret:—

SY̑ D́ POMS̍ CoP̂T.

These letters, I have ascertained, stand for "Syropo di Pomi Composito," or Compound Syrup of Apples.

With a few exceptions all the names are of distilled waters of the following indigenous plants:—Orange flowers, parsley, endive, betony, broom, chicory, blackthorn, borage, hollyhock, pimpernel, hops, couchgrass, liverwort, sage. The exceptions are the before-mentioned syrup, a plaister of melilot, and a distillate of snails.

Besides these jars I remarked a very large and handsome vase holding perhaps four or five gallons, which had the place of honor assigned to it in the middle of the saloon. It differed from the other jars in having four beautifully modelled handles, no spout, and a slightly conical bronze lid, and but for the medical label on the base might have been intended for some nobler use. Curiously enough this last named jar has precisely the same shape as an Etruscan urn found in one of the tombs at Chiusi, which is made of black clay and ornamented with figures of animals in low relief. The label of the medicine jar has the words TERIACA MAGNA, which is an electuary still used by old-fashioned people. It is a modernized form of the ancient "Mithridate," and is a wonderful farrago of drugs according to the formula given in an old pharmacopœia, which includes the following:—Squill, iris, ginger, gentian, calamus aromaticus, spikenard, valerian, scurvy grass, dittany, canella, red rose leaves, saffron, long pepper, aniseed, cardamom, myrrh, bitumen judaicum, castoreum, extract of opium, storax, and desiccated sulphate of iron. These ingredients are to be finely powdered, and well mixed with honey and white Spanish wine.

In my opinion the interest attaching to these 16th century ceramics is not so much in the light thrown on the pharmacy of that period, as in the evidence they afford of an æsthetic taste which could invest articles in daily use with a grace and dignity that compare favorably with the practice of our own times.—HENRY TAYLOR in *Pharm. Jnl. and Trans.*

---

* By John Herbert Claiborne, M. A., M. D., of Petersburg, Va., Ex-President and Honorary Fellow Medical Society of Virginia, etc., reprint from *Virginia Medical Monthly*, Dec., 1889.

DRUGGISTS' BULLETIN

A MONTHLY EXPONENT OF

PHARMACEUTICAL PROGRESS AND NEWS.

VOL. IV. No. 3. DETROIT, MICH., MARCH, 1890. {$1.00 a year. Single copies, 10 cents.

THE DRUGGISTS' BULLETIN.
ISSUED MONTHLY.

EDITOR:
B. W. PALMER, A. M., M. D.

COLLABORATORS:
PRACTICAL PHARMACY.
J. LE ROY WEBBER, PH. G., H. F. MEIER, LEON C. FINK.

CHEMISTRY.
F. A. THOMPSON, PH. C., J. B. NAGELVOORT, PH. G.

BOTANY AND MATERIA MEDICA.
H. H. RUSBY, M. D., G. SUTTIE.

PHARMACEUTICAL APPARATUS AND INVENTIONS.
J. B. RUSSELL, PH. G.

GEO. S. DAVIS, Publisher,
P. O. Box 470, DETROIT, MICH.

Articles designed for insertion in THE BULLETIN, subscriptions, advertisements, and all communications should be addressed to the publisher.

Editorial.

THE NEXT MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.[*]

The announcement of the Section on Scientific Papers of the American Pharmaceutical Assocation, is issued and accompanied by a list of queries which may be obtained from the Chairman of the Section Papers, whose address is appended. Many of these queries are rich in suggestiveness regarding questions of great practical interest to pharmacy, and it is to be hoped that adequate and satisfactory contributions and discussions will be contributed by members.

The details of the announcement of the Section on Scientific Papers is as follows:

FELLOW MEMBERS: The list of queries is submitted for your careful consideration. You are invited to select one or more of them and work up a paper, or papers, at your convenience. The queries chosen should be reported to the Chairman of the Section at once, but the papers need not be forwarded until the 1st of August, 1890. You are at perfect liberty to select queries which are under consideration by other members, or to write volunteer papers.

The practice will prevail again, which has been followed during the past two years, of having the papers printed for distribution, so that each member present will have a copy during the reading. Those members who prepare lengthy papers are requested, by a resolution passed at the last annual meeting, to make a synopsis of the paper, as provided for by Chapter VII, Article IV of the By-Laws, or come prepared to give the main points verbally. This will avoid taking up time with statistics and similar work, which the members can study from the printed papers. The plan will have a tendency to facilitate discussion, which, in reality, is the main object of the reading of papers at the meetings.

Attention is called to the Centennial Fund, the interest of which is to be used for defraying the expenses of suitable investigations—see Chapter VII of By-Laws of the Council. Should you desire to avail yourself of this fund, please make application to the Permanent Secretary, Prof. J. M. Maisch.

To encourage investigation, a prize is offered "for the best essay or written contribution containing an original investigation of a medicinal substance, determining new properties, or containing other meritorius contributions to knowledge; or for improved methods of determined merit for the preparation of chemical or pharmacal products; provided, that in case no one of the essays is of sufficient merit to justify the award, in the judgment of the Committee on Prize Essays, all may be rejected and the sum added to the Fund."

One of the objects of this Association, as stated in our certificate of incorporation, is: "To improve the science and art of Pharmacy by diffusing scientific knowledge among apothecaries and druggists, fostering pharmaceutical literature, developing talent, stimulating discovery and invention, and encouraging home production and manufacture in the several departments of the drug business." In order that we may accomplish this object as fully as possible, your Committee urge upon the members of the Association the necessity of preparing papers, which will add something to the advancement of the profession. We also recommend that an effort be made to attend the meeting previously prepared to discuss the queries accepted by other members.

---

[*] The Thirty-eighth Annual Meeting will be held at Old Point Comfort, Va., commencing Monday, September 8th, 1890.

H. M. Whelpley, *Chairman*,
2647 Olive Street, St. Louis, Mo.
J. M. Good,
2348 Olive Street, St. Louis, Mo.
C. F. Dare, *Secretary*,
Bridgeton, New Jersey.

THE PROGRESS OF THE TRADE-MARK QUESTION.

It is gratifying to those interested in the elevation of pharmacy to note the growing prevalence of sound views on the much-vexed question of trade-marks as applied to names of medicinal agents, and that active discussion of the question has been supplemented by definite action in the direction of securing a definition of what properly constitutes a trade-mark, in what and to what extent it protects, how it differs from a patent, and whether the names by which medicinal agents are known to literature and science can be legitimately maintained as trade-marks.

While conflicting decisions have been made as to these points, the preponderance of legal opinion is in favor of more strictly defining the distinctive character of a trade-mark, freeing it from the evils with which its abuse and misconception now threaten scientific literature, medicine and pharmacy, and preventing its extension to the limits of the monopoly without expiration which it now virtually secures.

A recent effort in this direction, reported by the *Druggists' Circular*, March, 1890, has been made by the Delaware Pharmaceutical Society. From the accounts published it would appear that some members of this Society laid before a Congressional Committee the modern perversions of the trade-mark idea, and with a view of establishing proper opinions of its limits.

The Chairman of this Committee, it is stated, in conveying the opinion of the majority of the Committee, announced THAT THE DESCRIPTIVE NAME OF A MEDICINAL PRODUCT COULD NOT BE USED AS A TRADE-MARK, ACCORDING TO THE PRESENT LAWS, AND THEREFORE NO LEGISLATION ON THE SUBJECT WAS NEEDED. This decision reminds us of the oft-told story of the client who consulted a lawyer to learn if his brother could be imprisoned under certain circumstances, which he detailed, when the lawyer demonstrated to a certainty that it was not possible, according to the existing law, to so imprison his brother, but the client replied that his brother was now in prison for the offence he came to inquire about. The Congressional Committee on this subject seem to us to be in the position of this lawyer in their decision, inasmuch as many medicinal products are already trade-marked under their descriptive or common names by which they are universally known in medical and pharmaceutical practice and literature.

To apply this illustration to existing pharmaceutical conditions relating to the practical operation of the present trade-mark laws it should be stated that if druggists or physicians relying on the assurance that the trade-mark laws now furnish that no one can now trade-mark the descriptive name of a medicinal product, attempt to sell a similar product, the owners of the trade-mark backed by their large capital will first threaten and then initiate suit for infringement of trade-mark, unless sale is stopped. The humble druggist of modest means being unable at such unequal odds to carry on a suit so costly to him through the local to the Supreme court, considers discretion the better part of valor, and not having much to gain, but on the contrary, much to lose by either its favorable or unfavorable decision, stops selling the proscribed article.

This is no imaginative picture we draw, but an occurrence not infrequent, which cases on record will fully substantiate.

Our contemporary alluded to, suggests that this question should be submitted to the United States Supreme Court, and if its decision proves adverse, that the only remaining remedy for the medical and pharmaceutical professions is to adopt new names for any substances they may wish to use, the descriptive titles of which have been claimed as trade-marks. But this plan, it seems to us, is futile; indeed it has been tried already both in this country and France, and failed, inasmuch as the trade-marked name being the descriptive and common one, it is the one generally used and demanded, in spite of any proper substitutes proposed.

We can not agree, then, with the Congressional Committee, that no legislation is demanded. On the contrary, it is sadly needed, and should be brought about by constant effort on the part of pharmacists and physicians, who are most interested, to influence in favor of proper legislation the representatives from their own districts by united or individual appeals, to enact and enforce such trade mark laws as shall prevent this evasion and secure, after patent or trade-mark right has expired, the free opportunity of making medicinal preparations on their merits, and to the public the right of purchase at reasonable and not at abnormal prices, fixed by unjust monopoly.

STANDARDIZATION AND EXPLANATION.

As the readers of the Bulletin have learned through its columns, this journal has been an active champion of the necessity for the standardization of preparations of toxic and narcotic drugs and uniformity of pharmaceutical preparations as far as can be applied.

The position assumed by the Bulletin has been almost universally supported by the best element of the pharmaceutical and medical press, as is evidenced by the fact that the following journals have already endorsed standardization:

Journal of the American Medical Association, *New York Medical Record*, *New York Medical Journal*, *Philadelphia Medical News*, *Philadelphia Times and Register*, *Philadelphia College and Clinical Record*, *Philadelphia University Medical Magazine*, *Cincinnati Lancet and Clinic*, *St. Louis Medical Review*, *St. Louis Medical and Surgical Journal*, *Louisville American Practitioner and News*, *Memphis Medical Journal*, *Daniel's Texas Medical Journal*, *Atlanta Southern Medical Record*, *St. Joseph* (Missouri) *Medical Herald*, *Nashville* (Tennessee) *Southern Practitioner*, *Virginia Medical Monthly*, *Kansas Medical Record*, *Southern California Practitioner*, *Peoria* (Illinois) *Medical Monthly*, *Toledo* (Ohio) *Medical Reporter*, *San Francisco Medical and Surgical Journal*, *New York Druggists' Circular*, *St. Louis National Druggist*, and many others too numerous for mention here.

Moreover, the medical profession have long shown their preference for greater uniformity in methods of manufacturing toxic and narcotic agents for medicinal use.

⁂

It is not without surprise, therefore, that we learned that so bright and scholarly a journal as the *Western Druggist*, January, 1890, should not only declare itself as opposed to a reform so beneficent as standardization, but do so in the most unparliamentary language, as has already been pointed out in the editorial columns of the BULLETIN for February.

In replying to these unjust aspersions, the BULLETIN suggested that the attack made by the *Western Druggist* was perhaps inspired by the business manager, inasmuch as no representation of the products of the manufacturers who introduced standardized preparations existed in the advertising columns of the *Western Druggist*. This view we are now assured by the publisher of the *Western Druggist* is not in accordance with the facts, and we are entirely willing to accept his assurance as to this, but are yet uninformed of the motives which actuated the writer of the articles we criticised, and must still consider them inconsiderate and unjustifiable attacks on a good cause—a cause which is likely in the near future to demonstrate its expediency, nay, its necessity, by an overwhelming majority of the expressed sentiments of those most interested in the progress of pharmacy and medicine, and in the protection of the public against lack of uniformity in the preparation of toxic and narcotic drugs.

⁂

Again, in the February number of the *Western Druggist*, appeared further and equally severe reflections on the BULLETIN, and the motives of those interested in standardization, characterizing the advocates of standardization as being "inspired by the rampant greed of Shylocks who demand their pound of flesh from a profession already weakened by industrial conspiracy and tyranny," and further anathematizing the advocates of standardization as "mercenary charlatans."

These articles apparently indicate that they have been launched specifically at the BULLETIN, and the manufacturers who first introduced standardized preparations in the form of the well known "normal liquids."

It is to be regretted, we think, that the discussion of standardization could not have been carried on without recourse to personalities, which certainly can lead to no clearer views of this subject, or convince any one of the advantages or disadvantages of standardization.

Certainly, "rampant greed," "Shylocks," "industrial conspiracy," "charlatans," and "tyranny," used by our contemporary, are expressions which can have no place in the argument of pharmaceutical principles or policy. If applied, as we interpret them, to the introducers of "normal liquids," whose work has been among all manufacturing pharmacists most directly in line with progress, and with the highest interests of pharmacy and medicine at heart, as they are understood by the best informed and most conservative votaries of both arts, their bombastic absurdity is apparent, and we think must act as a boomerang on their promulgators who thus substitute abuse for argument.

⁂

In conclusion, we would say that one thoroughly conversant with the facts could not draw the inference that the introducers of "normal liquids" or standardized preparations, have mercenary designs in their effort to obtain Pharmacopœial recognition.

"Normal liquids" were not initiated or recommended with any expectation of profitable returns. From the very nature of the case, in view of the labor and expense of assay, they are less profitable, unless sold at a much higher rate than fluid extracts, and if the manufacturers who introduced the former had mercenary designs, why did they not confine themselves to the manufacture and sale of fluid extracts, thus avoiding the increased labor and expense incident to standardization?

Again, inasmuch as the introduction of "normal liquids" is a step towards the establishment of uniformity in concentrated fluid preparations of toxic drugs, the co-operation of the medical profession is needed to insure a practical success. To insure such co-operation, involves very large expenditure in the various advertising ways customarily pursued for this purpose. If the name "normal liquids" had been trade-marked or protected in a manner similar to the so-called scientific discoveries (?) in which interest is maintained in combinations of remedies long known to medicine and pharmacy and devoid of originality, there might have been some incentive for a large expenditure in an advertising way, or for a mercenary attempt to obtain Pharmacopœial recognition.

There exists no protection to the introducers of "normal liquids" of a Governmental character either by patent, trade-mark, or copyright—not even that of secrecy. The only protection afforded, then, is the reputation of the manufacturer, and the technical ability essential to a successful assay; hence, there can be no monopoly in any sense of the word, excepting so far as may be conceded voluntarily by those too inexpert to assay them. As matters now stand, such monopoly exists, but how does it exist?

Manufacturing pharmacists generally oppose the recognition of "normal liquids" solely because of the fact, that superior technical ability is necessary to their proper manufacture, or because they (the manufacturers) are reluctant to follow the lead of the introducers.

And what does the recognition of the Pharmacopœia mean if not that the sentiment involved in the reluctance to imitate will be removed, and that manufacturers generally, under the lead of the Pharmacopœia, will take up and manufacture "normal liquids" as a decided advance in pharmacy and therapeutics. In such case the present voluntary monopoly which exists will be removed, and the introducers will be compelled to accept such share of the patronage as shall remain unappropriated by others.

Can any reasonable person then deduce, from the above statement of facts, the inference that those who seek the recognition of "normal liquids" or the standardization of fluid extracts are actuated by mercenary motives? Such accusations, though framed in high sounding rhetorical sentences, vanish before the simple statement of the truth.

Let the question of the standardization of galenical preparations stand upon its merits. The arguments against it will not be strengthened by indulgence in personalities or the use of such terms as "Shylocks," "mercenary charlatans," etc.

⁂

One more word and we will let the matter of standardization rest with those guardians of the Pharmacopœia who are entrusted with its revision. Much has been said about the impracticability of the average pharmacist being able to conform to the standards suggested in making preparations of toxic and narcotic drugs. As to this, we beg to quote an editorial on the subject from the influential *Druggists' Circular*, March, 1890, which voices our sentiments, and we think those of all progressive, intelligent pharmacists.

> **"The chief arguments against any endeavor to introduce more standardized preparations into the Pharmacopœia, seem to be inspired by a fear that the processes necessary to make them would be too difficult for the average pharmacist, and consequently the large manufacturer would have more opportunities to absorb business from the retailer.**
>
> **This sort of reasoning is simply puerile, and an insult to the pharmacal profession. The process of standardization includes nothing which cannot be brought within the comprehension of any one familiar with the simplest chemical manipulation; and suppose there should be difficulties which some pharmacists could not meet, how are they to prevent the manufacturer from occupying a field they will not undertake to enter? Doctors are easily enough persuaded to use preparations represented as the products of advanced science, and do not concern themselves at all whether such preparations are officinal or not. The pharmacist who would keep up in the race must manifestly do it by positive effort. If he feels incompetent to meet the demands which the advance of science is making on his skill, he must qualify himself further, or submit to be made more and more a mere seller of drugs."**

THE CHOICE OF ANÆSTHETICS.

The *Lancet* of London, (January 18th,) devotes no inconsiderable space to the experimental study of anæsthetics conducted by T. Lauder Brunton and associate members of the "Chloroform Commission" authorized by the Nizam of Hyderabad.

It appears that a large number of the pariah dogs of India were subjected to the influence of various anæsthetics, the greater proportion of which were anæsthetized and killed by chloroform.

From the suggestive title, and the fact that 109 pints of this fluid were used against only 11 pints of ether, it may be surmised that the chief aim of the Commission was to vindicate and rehabilitate chloroform as an anæsthetic; and this would doubtless be the result, providing only that the conclusions deducted could be unreservedly accepted. As it is, many medical men welcome these findings as justifying their use of a most convenient agent for the production of anæsthesia; and it must be admitted that chloroform has latterly fallen into ill-repute, to some extent undeserved, especially on this side of the Atlantic, it having come to be regarded as an agent entailing particular and unavoidable danger.

The gist of the report of the Hyderabad Commission may be briefly summed up as follows:

In chloroform anæsthesia, the recumbent position (on the back), and perfect freedom of respiration, are absolutely essential; if these cannot be secured during an operation, the utmost attention should be given to the respiration; if the struggles call for restraint, pressure should be upon the shoulders, pelvis, or extremities—never upon the abdomen or chest.

No apparatus other than an open cone or cap, with a little absorbent cotton at the apex, should be employed.

At the commencement of inhalation, the cap should be held far enough from the mouth to avoid exciting, struggling, or holding of breath; when quiet breathing is ensured, there is no reason why the inhaler should not be applied close to the face, as all that is necessary is, to watch the cornea, and see that respiration is not interfered with.

Under no circumstances should the anæsthetic be pushed till respiration stops. After the cornea has once become insensitive, the patient should be kept gently under by occasional inhalations.

If anything interferes with respiration, the inhalation should be stopped till the breathing becomes again natural.

Should the breathing become embarrassed, the lower jaw should be pulled forward so that its teeth protrude in front of those of the upper, which raises the epiglottis and frees the larynx; at the same time the respiration should be assisted artificially.

Should breathing cease, artificial respiration should at once be resorted to, during which an assistant lowers the head, and draws forward the tongue with catch forceps.

A small dose of morphine may be administered subcutaneously before chloroform inhalation, as it helps the patient in a state of anæsthesia in prolonged operations. *Atropine should positively never be used.*

All that the Commission have really demonstrated—indeed all that they claim, in spite of the eager and unwarranted assertions of numerous admirers and supporters, including many medical publications—is, not that it is other than easy to induce death by chloroform, but that, with proper precautions, fatal results, generally speaking, may more often be averted.

After all, this is nothing more than every anæsthetist experienced in the use of the drug knew before.

Some of the friends, however, of Dr. Brunton—whose testimony in favor of chloroform is, and ever has been, to a considerable extent *ex-parte*—assert that it has now been demonstrated that this especial anæsthetic is superior to all others, and that it "may be given in *any* case requiring an operation, with perfect safety and ease."* Whether Dr. Brunton fully upholds these radical assertions cannot be definitely determined, since the full report of the Hyderabad Commission has yet to be published—they certainly are not in precise accord with this gentleman's recent announcements, or the statements made in his work on *Pharmacology, Therapeutics ana Materia Medica;* but it may nevertheless be assumed that a decided preference in favor of chloroform, over other anæsthetics, is implied if not expressed.

It is hardly to be expected, nevertheless, that even the most moderate of these views should pass unchallenged, especially on the part of those who, while speaking with the authority of long and special experience, have learned to regard the effects of chloroform in a somewhat different light. Mr. Bailey and Mr. Woodhouse Braine, two of the best known of English anæsthetists, at the meeting of the Medical Society of London, February 10th, gave unequivocal testimony in favor of ether as being an anæsthetic every way preferable in most surgical operations, and asserted—and we believe justly—that their claims had the support of the great majority of surgeons. Reference was also made to the assertions of Mr. Teale, made in an address delivered before the Leeds session of the British Medical Association, to the effect his life had been very different to him since he substituted ether for chloroform, as he now had "no anxiety whatever; the patients get well, the operations are simplified, and there is in every instance perfect anæsthesia."

It has been generally taught that fatal results from chloroform are due to cardiac arrest. This the Commission are disposed to to deny, claiming instead paralysis of respiration, basing their conclusion on the Hyderabad experiments conducted on dogs.

It must be remembered, however, that dogs are not human beings, and that the physical and physiological constitutions of the former vary materially (and more generally than in the latter) according to latitude, altitude, climate, breed, habits of life, and general surroundings.*

Again, for all 360 pariah dogs in India have died through respiratory failure induced by chloroform administered by the Commission, it must be remembered a far greater number, under precisely similar circumstances, in England, Germany, and America, have died from cardiac arrest. Further, it is generally conceded, that chloroform fatalities may be induced through either pulmonary or cardiac paralysis, according to the method in which the drug is administered.

Since the report of the Commission, a series of parallel experiments were undertaken by Profs. Hobart A. Hare and H. C. Wood,† who say:

> As we use between us, in the laboratory of the University (of Pennsylvania), many dogs yearly, a very large proportion of which are finally killed by chloroform, we may be excused for our positive assertions that chloroform *is a cardiac paralyzant*, and does kill dogs by direct action upon the heart or its contained ganglia; especially since we have been strengthened in our opinion by the fact that Dr. Reichert, Professor of Physiology in the University, has reached results confirming our own, and has frequently demonstrated the same to the University classes. * * * It has been the custom of one of the authors of this paper, in his lectures before the University class, to demonstrate by means of the respiratory tambour, the mercurial manometer, and the kymographion, a continuation of respiratory movements after cardiac arrest through chloroform. Further than this, we have at various times taken tracings proving the same facts.

The statements that have been recently made in the Indian journals, and in the London *Lancet*, have led us to re-examine the subject, and to make a series of experiments upon it with great care. We have also varied and extended these experiments in order to determine whether chloroform paralyzes the heart by direct influence or by an indirect action through the vagus. * * * In all cases accurate tracings have been made by means of the kymographion and the respiratory tambour.

---

* The *Lancet*, Jan. 18th, remarks editorially: "The practical outcome of this research would appear to be that deaths from chloroform are not inevitable. They are, therefore, preventible, and by *due care* in its administration *they may be with certainty avoided.*"

Such statement is not only unwarranted, but dangerously pernicious.

* The vascular system of European dogs is much more developed than in American animals of the same class and breed, and consequently operations upon the former are attended by greater hæmorrhages.

† *Medical News*, Feb. 22d.

* * * * * * * *

The experiments * * * show that chloroform acts as a powerful depressant poison upon *both* respiration and circulation; that sometimes the influence is most felt at the heart, and death results from cardiac arrest; that in other cases the drug paralyzes primarily the respiratory centres; whilst in other instances it seems to act with equal force upon both medulla and heart. So far as practical medicine is concerned, it makes little difference whether the heart stops just before or just after respiration, so that those cases in which cardiac and respiratory arrest are almost simultaneous, are, for the purposes of the clinician, the same as those in which heart arrest precedes respiratory paralysis. Finally, the results of our new experiments also coincide with our previous experience in the laboratory, and with what we believe to be the general belief of physiologists—that cardiac arrest is specially prone to occur when chloroform is administered rapidly and in concentrated form.

There are three serious flaws in the work of the Nizam's Commission. First, the climate of India is such that it is impossible to obtain or preserve pure ether, so that only an impure product was obtained for the experiments carried out by means of this anæsthetic. Second, the investigations consisted chiefly of laboratory work, as to the value of which, a large number of medical men (for reasons heretofore expressed) must entertain serious doubts. Third, it must be admitted that when the results of laboratory investigation clash with clinical observation, the latter must have precedence; the former only lead the way to clinical studies, while a well-established clinical fact cannot be disproved by any amount of experimentation upon lower animals. It is not only highly possible, but probable, that the sequence of effects in chloroform-poisoning in animals may differ from that which obtains in human beings; yet this must remain an open question until more definite and reliable data are forthcoming.

The facts seem to be, however, that the administration of the vapor of chloroform in dilute form tends to induce heart paralysis, and in more concentrated form, both cardiac and pulmonary arrest. These facts alone are evidence of the superiority of ether, in which the sole danger, and that one extremely remote, is from paralysis of respiration. Again, it must be remembered that chloroform requires carefully graduated admixture of atmospheric air—not to exceed three per cent.—since five per cent. of the latter is admitted to be attended by fatal consequences. That chloroform possesses special advantages over ether in obstetrics, and certain surgical operations, are facts too well known to demand discussion or reiteration.

PRELIMINARY REQUIREMENTS FOR THE STUDENT OF PHARMACY—THE NECESSITY FOR PRACTICAL TRADE AND DIDACTIC INSTRUCTION.

We hear very much now a-days about medical colleges exacting certain standards of preliminary requirements before admitting medical students to their courses of instruction, and not a few institutions are now able to insist upon high standards of qualification as a *sine qua non* to matriculation.

It seems to us equally important that colleges of pharmacy should take this progressive step also. If the educational status of the profession is to be elevated, and if proper standards were generally adhered to, by our colleges of pharmacy, the next generation of pharmacists would stand vastly higher in pharmaceutical attainment and largely gain too, in a trade way, by increased knowedge and the greater confidence that would be inspired in the communities in which the lot of the pharmacist was cast.

We have been much impressed by a stimulating appeal made in the direction indicated above, of one of our trans-Atlantic pharmaceutical writers, Joseph Ince, in an article contributed to the *Pharmaceutical Journal and Transactions*, Feb. 22d, 1890, entitled, "The Public Teaching of Pharmacy," which we commend to our readers interested in the advancement of pharmaceutical education. In his paper, Mr. Ince takes occasion to define the relations of the trade and professional aspect of pharmacy, and withal to give such good advice on the subject, that we reproduce his suggestions entire:

Pharmacy is a branch of medicine; it has two sides —one which pertains to trade, and another which is so far professional as it relates to science.

The closer the union of the two, the better the position of the pharmacist.

Let us accept these propositions frankly, and adopt them, not as sentiments, but as rules of action. The spirit of the times runs strongly in that direction, and the well-being of pharmacy depends upon their practical acceptance.

Pharmacy in the abstract can scarcely be defined; it is difficult, if not impossible, to draw a strict line which may separate it from the allied sciences on which it is based, or to accurately describe certain subjects as being purely chemical or pharmaceutical.

Facts relating to weights and measures, density and specific gravity, the laws of heat, the theory and practice of distillation, are the common property of both, though their applications are in the main distinct.

We must therefore take a broad view, and say, that while arbitrary divisions are untenable, there is a general and true sense in which pharmacy may be regarded as a distinct branch of knowledge.

Pharmacy is that art which concerns the business of a chemist and druggist; which treats of the medical value of drugs, their combinations, remedial applications and preparations; which includes the whole range of Galenical information contained in an official pharmacopœia, and in such standard treatises or current literature as serve either as commentary, explanation, or amplification of the text.

It includes the practical knowledge of apparatus and appliances especially designed for the production of medicaments. It may claim as more specifically its own, an exhaustive study, practical and theoretical, of the processes of comminution, extraction, and percolation, and the study of various other processes in their direct relation to pharmacy and medicine.

While it derives splendid advantage from other sciences, of which chemistry is chief, it yet has a province of its own. Pharmacy, as the ally of medicine, is the art by the aid of which the written formulæ of the physician are read and accurately dispensed; also as an ally it should be forever on the watch against errors which arise either from haste or from imperfect knowledge of the laws of combination. There is an idea rooted and grounded, not in charity, but tradition, that pharmacy should be taught exclusively at home, and that all that is necessary to be learned in connection with the art may be gained behind the counter.

It is a settled conviction in the minds of many, that, owing to defective arrangements between master and apprentice, the School has risen as a regrettable necessity, but that in the good time coming, when masters are more competent to give instruction, and attendant circumstances are more favorable, the primitive order of things will be restored, and the public teaching of pharmacy will be numbered with things of the past.

These sentiments seem founded on a misconception of the bearings of the subject, and an endeavor will be made to state the case in the fairest manner.

Let it be explained that by the word *school* no allusion to any particular institution is intended to be conveyed.

Every true pharmacist hails the establishment of a School of Pharmacy.

There is no desire to suggest that existing masters are incompetent to teach, or illiberal in their arrangements.

The view presented is based on daily experience of a fairly direct character and of ancient date.

What can the shop (let the word be forgiven) teach?

Something indispensable and of incalculable advantage. There, only, can an apprentice learn business habits neatness, despatch, the love of order, trade values, and a knowledge of an infinity of minor details which are essential to his subsequent success.

There he forms a familiar acquaintance with the general appearance and physical characters of drugs.

The pharmacy is the real school in which he learns to distinguish one preparation from another and acquires the art of recognition. The label ceases to be the sole guide to the contents of the bottle. Later on, with more experience, he may be trusted to compound, that is to put together many of the simpler forms of these drugs and preparations, until relying on further knowledge, which will be in direct ratio to his powers of observation, he may safely enter upon dispensing.

In all this he will gain immeasurably by a continuity of work which no public teaching can devote to pure pharmacy, owing to the varied subjects which an official course must of necessity embrace.

Home teaching, moreover, may supply a certain knowledge of the literature of pharmacy, as contained in the Pharmacopœia or other standard manual.

Now wait, while for the sake of an impartial survey some other matters are enumerated.

We must look to a few exceptional pharmacies for such a preliminary training as that described above. Few great establishments will now take an apprentice or engage an assistant in order to teach him these things.

The masters of these first-class houses are most competent instructors, but they have to superintend important business, and not to keep a school.

The system of apprenticeship needs revision, and that mode of training which is now ideal, should be made compulsory. Then, indeed, the Universal School of Pharmacy will be exalted to its right position, for a youth so fitted and prepared, and with this sound preliminary instruction, who is welcome to its curriculum. No school of pharmacy should have to teach the rudiments of Latin; a student who is no longer an apprentice should know his grammar, and be able to construe an ordinary prose sentence correctly and with ease.

Something, therefore, demands imperative alteration prior to the apprenticeship, and that is the removal of the too common want of a liberal education. Our youth are not fairly dealt with, for they are thrust into a semi-professional business without that average scholastic groundwork which, in their case, is a necessity and not a polite accomplishment.

The session opens; the students congregate, and the lecturer begins to explain pharmacy. The reading of autograph prescriptions must come first, for how can a man learn to dispense that which he cannot read?

A hindrance, in the shape of a large unhewn stone, blocks the threshold; the student is wearying over verbs, adjectives and construction when he should be making himself familiar with the endless variety of medical combinations, and the handwriting in which those combinations are expressed. Sorely is the lecturer embarrassed when he finds that he must put back this part of the subject for a month, because, comparatively, few know sufficient Latin to understand the meaning of the words.

When this difficulty has been surmounted, one specific advantage of the public teaching of pharmacy appears. Excepting historic houses, which command the sweep of dispensing practice in their own circles, no private pharmacy can compete with the abundant illustrations of prescription formulæ, gathered from all sources, heterogeneous and characteristic, which a school can offer to its students.

Let none suppose that it is the intention of these remarks to run a comparison between home and public teaching to the exaltation of the latter. We consider that this is the unique origin of the misconceptions relative to the subject. Both are essential; the one is the complement of the other. Home training is indispensable to the future chemist and druggist; a public course is the continuation and indispensable development.

The school takes the student by the hand at the very point at which he wants substantial aid and enlarged experience. This is afforded by an immediate introduction to systematic dispensing, embracing every known method; selecting such as have stood the test of time, and explaining all. It cannot be too clearly understood that the dispensing of a crowd of miscellaneous formulæ, illustrating no principle, chemical or pharmaceutical, is totally without value in an educational point of view.

The school takes the student by the hand at the critical juncture when he begins cordially to dislike, because he fears never to grasp, the multifarious formulæ of the Pharmacopœia. He is bewildered by the multitude of facts which he must learn; the similarity and yet the differences which exist in whole groups of preparations; the component quantities sometimes essential, sometimes arbitrary, which the formulæ contain; the tests, with the reason for their introduction, and the lessons which they teach. Nothing more monotonous or distasteful can be imagined than to attempt mechanically to commit to memory the disconnected series without cheerful guidance. We are far from being disposed to over-estimate what is termed the lecture system, but in this particular instance it is an effective method of instruction.

The whole subject is presented in a connected and intelligible shape, and the lecturer is not faithful to his trust who does not, to the utmost of his ability endeavor to render an otherwise disheartening study, attractive to his hearers.

Let him link these disjointed elements together; illustrate his observations by diagrams, drawings, tabulations, and by actual specimens; let him demonstrate each test, and speak to the students without note or manuscript. Then the dead bones will live, and will come to life all the sooner as the student conceives the hope of recollecting their articulation.

The School takes the student by both hands when it opens for him a working laboratory in which all these preparations are to be individually made. That is the end which crowns the work, and without this personal manipulation the best theoretical teaching is of sadly diminished use. A man may hold strong views (and he should), but he will do well also to cultivate a broad generosity of thought. The wise king had wisdom and largeness of heart, and it is in this spirit we should approach this and other questions.

The pure chemist is apt to despise pharmacy from its association with the till; the trade pharmacist is apt to despise technical education because he fears it may set a man above his business.

So, at the outset, it not infrequently does; just as an Oxford training upsets for a brief period the most spiritually-minded curate when he exchanges the amenities of college life for the charge of a rural parish.

If there be anything in the man, and if he be worth his salt, this phase will pass; the curate will become the devoted servant of his flock, and the assistant will become the right hand of the most apprehensive master.

To this very point we would lead these reflections. Our youth are urged to enter upon a course of study, not to qualify for the professor's chair, nor to take high rank as scientific men, but that their possibilities of success in business may be infinitely extended. Viewed in this light, a compulsory examination which exacts systematic training is a benevolent institution. Who are the men that at this moment stand before the world as examples of trade prosperity? Those who in their own persons are the living illustrations of the value of acquired business habits and of systematic education. They will be succeeded by their sons, who are by no means deficient in a sound practical knowledge of pharmacy, who know its ins and outs, who can dispense fairly, and who are well posted in the routine of pharmaceutical details, and who yet are the most industrious, plodding, and attentive members of a public class. They put to shame the race who consider themselves omniscient.

The keen competition of the age has changed the aspect of affairs. Time was, when the sage sat in his chamber, which was stuffy; above, in full swing, was his crocodile, which was stuffed; below, in full swing, was his science, which was stuff. But he passed for a learned man.

Time was when the pharmacist smiled behind the counter and held converse with an ancient dame about her internal organization, and that "sweet sermon on Corinthians." But he passed for a learned man.

Pretension, like the poor, will be always with us; but we must make pharmacy a serious study if we hope to maintain our ground. We advocate, with whatever power we possess, the direct union and complete understanding between the pharmacy and the School.

The public teaching of pharmacy will not do everything. It will not inevitably change the character of the student. Some will come to escape the tedium of business; some for amusement; many more to pass an examination, content to learn so much and not an atom more.

There will always remain a chosen number who love work for its own sake. The better they have been prepared at home, the better will they succeed; and to them especially will be the advantage of the Public Teaching of Pharmacy.

Original Articles.

PRACTICAL PHARMACY.

PHARMACEUTICAL NOTES.

BY J. LE ROY WEBBER, PH. G.

Oleate of Mercury.—Notwithstanding the fact that this is an official preparation, a variety of products are commonly found in the market the strength of each being designated by the percentage of mercuric oxide which they contain.

The U. S. Pharmacopœia directs that 100 parts shall contain 10 parts of the yellow oxide of mercury, thus forming a 10 per cent. oleate; while the original formula of Dr. Marshall, who introduced oleates as a class in 1872, provides for a preparation containing but 6 per cent of the oxide.

Both of these preparations, however, are very unstable, the mercury becoming reduced to the metallic state and collecting at the bottom of the container as a comparatively inert precipitate.

The decomposition appears to be due to the excess of, and impurities in, the oleic acid employed, as the change goes on less rapidly but is not prevented if a pure acid is used. The precipitated oleate, on the other hand, is free from this objection, and a consideration of this fact leads me to propose its introduction into our next Pharmacopœia, in place of the 10 per cent. oleate which does not merit official recognition.

The pure oleate contains theoretically 28.32 per cent. mercuric oxide, so that it is an easy matter to prepare a weaker oleate of any desired strength by the admixture of a suitable diluent. Oleic acid has been most generally used for this purpose, and this article meets all therapeutic requirements providing the mixture is used before it has been allowed to deteriorate with age. Such mixtures should never be kept in stock, but they should be prepared extemporaneously when wanted. Petrolatum, vaselin, and cosmolin, have also been suggested as diluents, but these are objected to on the ground that they are very slowly absorbed by the skin, and are therefore capable of defeating the very object for which the oleate is intended. With a view to overcoming the foregoing objections, experiments were conducted in which lanolin was employed as a base. This substance seems to have been happily chosen for the purpose, in view of its compatibility with oleate of mercury, and the fact that it possesses the property of being readily absorbed.

The following formulas will serve as guides in the manufacture of the various forms of oleate of mercury after the improved method suggested.

Precipitated oleate of mercury, containing (theoretically) 28.32 per cent. mercuric oxide.

Castile soap (Conti's)	1 lb.
Corrosive sublimate	½ lb.
Sufficient water.	

Dissolve the soap in six parts of water by aid of heat, and when the solution has cooled to 160° to 165° F., add, in divided portions, the corrosive sublimate which has been previously dissolved in hot water. A sufficient quantity of sublimate solution is known to have been added if the soap solution ceases to foam when shaken in a bottle. The temperature above specified should be maintained for two or three hours. After twelve hours, the supernatant liquid is to be drawn off, and the residual oleate thoroughly washed with warm water to remove the sodium chloride resulting from the reaction. In large operations, the manufacturer subjects the oleate, at the latter stage of manipulation, to constant stirring until a homogeneous mass is produced.

Oleate of mercury containing 20 per cent. mercuric oxide:

Precipitated oleate of mercury	71 parts.
Lanolin	29 "
To make	100 "

Mix the two ingredients and facilitate the operation by applying a gentle heat.

Oleate of mercury containing 10 per cent. mercuric oxide:

Precipitated oleate of mercury	35.5 parts.
Lanolin	64.5 "
To make	100.0 "

Oleate of mercury containing 6 per cent. mercuric oxide:

Precipitated oleate of mercury	21.3 parts.
Lanolin	78.7 "
To make	100.0 "

Oleate of mercury containing 5 per cent. mercuric oxide:

Precipitated oleate of mercury	17.75 parts.
Lanolin	82.25 "
To make	100.00 "

Pepsin Testing.—While recently engaged in reading the results of a pepsin test, I was surprised to discover that the albumen used in two of the experiments remained unchanged, while in all of the others solution had been effected. This condition of affairs naturally lead to the supposition that the addition of the pepsin had been overlooked, but being assured by the operator that such was not the case, I suggested that the alkalinity of the egg albumen might have been sufficient to destroy the activity of the ferment, as in the two cases cited the pepsin had been mixed with the albumen first, while in the other tests the hydrochloric acid was previously added. Subsequent experiments demonstrated the correctness of this view, as no peptone was formed when the pepsin was brought in contact with albumen in an alkaline condition.

It has been heretofore shown that alkaline substances in combination with pepsin are immediately destructive to it in the presence of water. If pepsin be first treated with sodium bicarbonate, and the solution afterwards acidified, it will be found to have lost its digestive power. The fact that egg albumen is frequently sufficiently alkaline to destroy the activity of the pepsin, thereby rendering the test valueless, had heretofore escaped my attention. I, therefore, desire to give the benefit of my observation to those who are liable to meet with similar results, and thus, perhaps, prevent the condemnation of a specimen of pepsin which may be entirely satisfactory.

THE EMPLOYMENT OF COLD IN THE PREPARATION OF EXTRACTS.

BY A. L. JOHNSON, PH. B.

In view of the attention which current literature has accorded this subject, and the prominence which was given preparations of this class at the Paris Exposition, a few excerpts from the work of Adrian,* which was reviewed in the August, 1889, number of the Bulletin may be of interest to its readers.

An entire chapter of this interesting book is devoted to this idea of utilizing cold in the extraction of drugs. He treats the subject quite fully from an historical point of view, and notes the various trials which have been made at different times at applying this principle. He also presents quite fully the points of superiority of preparations made by his methods; but as to their practical workings and the apparatus employed, he leaves his reader largely to the exercise of the imagination, endeavoring to satisfy him with the statement that this machine or that process is "*speciale de notre invention.*"

For the concentration of extracts, the process seems to consist in, first congealing, then crushing the congealed mass and separating the extract by a method which he does not describe—probably by a centrifugal machine—after which the fluid is further reduced at a low temperature in a vacuum pan. But we will follow the operation from this point, as nearly as may be, in the words of the author:

For the production of cold we use a machine of the type of Mignon and Rouart, with which by means of ammonia water we easily obtain a temperature of —20° C., which is sufficiently low for operation upon 200 kilogrammes of liquid at one time. The vegetable solution prepared by one of the ordinary methods (maceration, digestion, decoction, infusion, lixiviation, etc.) and filtered by a filter press, is placed in the molds of the freezer and congelation allowed to go on until the blocks of ice have a temperature of —10° C. By this time the blocks are very hard. We detach the blocks from the molds by quickly placing the latter in hot water, after which we transfer them at once to a crushing machine of our special invention, which reduces them to a snowy state in less than a minute; this snow is finally placed in a drying apparatus of a particular style which is operated at a great velocity. The operation of drying or extracting is performed upon 25 kilogrammes at a time and occupies less than 20 minutes. One thus at once separates from the solid state, 75 per cent. of water almost deprived of soluble principles. The fluid extract thus obtained is again frozen at a temperature even lower than the first time (—20° C. for example), and the crushing and drying are as before. After this second freezing, and in operation upon (say) 100 kilos of liquid, we obtain from the machine 12–15 kilos of a syrupy extract, already quite concentrated, and which, in our new apparatus for evaporation *in vacuo*, it is possible to bring rapidly to the desired consistence, a temperature of +30° C. not being passed.

Thus, he says, the conditions necessary to the preparation of extracts without heat, and shut out from contact with the air, are found realized in a practical manner.

These extracts, he continues, differ sensibly, as we have proved, from those which are evaporated *in vacuo*, and even more from those which are prepared on the water bath and in contact with the air; they are of a lighter color; the solutions are less cloudy, and exhibit in a higher degree the characteristic physical properties of the plants which they represent. The difference is even more marked in those which are obtained from fresh plants, for they are not subjected in this method of clarification to the long standing which is necessary in the usual process, and in which, with the elimination of the albumen, is taken also a part of the active principle; and they must, therefore, present a more energetic therapeutic action than the extracts of the same plants prepared by the other process. It will then be fitting, we think, if this process becomes general, to verify experimentally the action of extracts thus obtained, at least of such drugs as belladonna, henbane, and conium.

So much for the concentration of liquids by cold.

With reference to the clarification of liquid extracts by this agent, he says:

A long time since it was observed that certain extracts allow, sooner or later after preparation, the deposit of certain mineral or organic bodies, crystalline or amorphous, which render them gritty and diminish their power of solubility; such are asparagin, nitrate of potassium, chloride of potassium, tannic oxide, etc. On the other hand, we have noticed, in common with other manufacturers, that many fluid extracts when allowed to stand in a cool place, deposit, after a certain time, a dark insoluble matter (*apothème* or *extractif oxyginé* of the ancient chemist), which we cannot easily separate except by decantation or adding to the extract a certain quantity of water. This mode of clarification is in current practice, but is not all that is to be desired, especially during the hot season, because of the time that it takes; and we have been naturally led to the thought that here again cold might be employed with advantage. Experience has justified our previsions, and we are permitted to see, that in maintaining a temperature near the freezing point, a proper degree of concentration was acquired, and one day was sufficient to affect the separation of those insoluble materials, which under ordinary circumstances would not be deposited except after a much longer time; decanting or filtering after this without allowing the temperature to rise, we are able to obtain in a relatively short time extracts which are perfectly soluble, and of which the solution is clear.

---

* Etude Historique sur les Extraits Pharmaceutiques; Paris, 1889.

For bringing about this clarification "*par le froid*," he makes use of an "*armoire réfrigérante*," constructed much after the manner of our domestic ice-box or refrigerator. The cabinet is provided with glass sides, and has shelves upon which are placed bottles filled with the liquid to be clarified. Coils of iron tubing are fitted into the interior of the refrigerator, and a current of calcium chloride water, brought to the freezing point by the ice machine, is made to circulate through the tubing by means of a pump.

Within a quarter of an hour, he claims, provided the liquid in the pipes is — 20° C., the temperature of air in the chamber will have been reduced to + 1° or + 2° C., and precipitation will begin to take place in the bottled fluid.

This latter application of cold in the preparation of extracts seems to be by far the more practicable of the two, and is without doubt quite worthy of the further attention which the author promises to give.

THOUGHTS ON CURRENT TOPICS.

BY H. M. WHELPLEY, M. D., PH. G.

It is infrequent that we hear those connected with medical or pharmaceutical colleges criticised for turning out so many doctors or druggists. "We have too many druggists now, and what is the use of grinding out so many more of them?" is a question which was put to me lately. I am confident that no one who has ever had the pleasure of watching a class of students through two or three years of lectures will ask such a question. The teacher who takes an interest in his students and watches them as they learn how to study and think for themselves, will never forget the value of such training or consider it useless. If the particular professional life is followed, the person thus trained will have advantages over the less fortunate. In case the student fails to continue the vocation, this mental training will assist him in any line of business he enters. The students who do not derive benefit from the course of study, are those who give no attention to the lectures or their books, and never learn how to study or train their mind.

I have been wondering how many of the delegates to the Pharmacopœial Convention have accepted their appointment with no idea of attending the meeting. It is manifestly unjust for any to do so, unless they are a last choice, and will go if any one does from the organization they represent. Much of the subsequent popularity of the revised edition of the Pharmacopœia will depend on the degree to which the delegates at the Convention represent every section of the country. It is equally desirable to have the delegates as "representative as possible" of the druggists whose interests they are to protect.

Among other things of interest in Part Second of the "Digest of Criticisms of the United States Pharmacopœia," I notice a list of articles which the druggists in some sections of the country desire to see dropped from the revised edition of our National standard. The list is not a very long one and does not enumerate a very great proportion of the nearly one thousand titles in the Pharmacopœia. Still I find it contains the names of several of our old familiar friends in this section of the country. The articles in question may not possess any very great therapeutical value or pharmaceutical elegance to lend them dignity in the claim for a place in the Pharmacopœia, but our druggists continue to dispense them, and expect to find the articles in the Pharmacopœia. I think that fully as much care should be exercised in discarding as in adding articles to the official list.

It is not so very unfrequent that we find physicians who make use of the simple and sensible metric system of weights and measures when writing prescriptions. What is much more uncommon and proves a novelty, is to meet a doctor who has printed on the bottom of his prescription blank the imperative sentence, "See notice on other side." Then imagine the surprise of the average pharmacist when he obeys the command and finds the following injunction:

> **The writer hereby gives notice that this prescription shall not be compounded unless the ingredients are weighed and measured by metric weights and measures and the exact quantities dispensed; also, that this prescription shall not be repeated, nor any substitution either in drugs or manufacture allowed, unless written permission is given by the writer so to do. The responsibility of the writer ceases on a violation of these conditions.**

The physician of this city who uses such blanks informs me that occasionally he finds druggists who disregard the notice, and in such cases he is careful to see that they do not receive any more of his prescriptions. I have always contended that all prescriptions written in the metric system should be filled by aid of the proper weights and measures, so that all possibility of error in converting from one system to another will be avoided.

I have noticed several medical journals which show considerable enterprise in giving information about the third edition of the German Pharmacopœia which was recently begun in Berlin by the Imperial Pharmacopœial Commission of Germany. This foreign work interests American physicians only in a general way. However, the labors to be performed at the Washington Convention for the revision of the United States Pharmacopœia, are of direct interest to all physicians in this country. Still the very same journals that notice the German Pharmacopœia, fail to mention the call for our Convention, or to outline the purpose of the gathering. It may be journalistic enterprise to publish foreign news, but the American reader also needs some information about home affairs. I must note that some of the medical journals have taken great interest in the revision work, and stand out prominently as examples worthy of imitation by the host of less useful publications.

Some hungry correspondent of a pharmaceutical journal, in his thirst for fine pharmaceuticals, asks for a method of deodorizing asafœtida. I am wondering what the drug would be when robbed of its characteristic odor. I compare it to a non-fragrant tuberose or to deodorized musk. Without odor, a piece of assafœtida could be nothing but a base imitation. What "horse doctor" would risk his professional reputation and the life of his patient by such a substitution? Elegant pharmacy is very well in its place, but please desist from robbing us of all the landmarks of our apprenticeship. Do not deodorize our assafoetida, smooth down the pungency of our water of ammonia, sooth the irritating capsicum, or take away the adhesiveness of Canada balsam. For the sake of the memories of old times, leave us these familiar objects.

It may seem a little late in the day to urge pharmacists to read the last edition of the U. S. P., but I conclude from personal experience with the profession that but few druggists are familiar with a very important part of the Pharmacopœia. I refer to the Historical Sketch and the Abstract of the Proceedings of the Convention of 1880. The information contained in this section of the work is especially *à propos* at this time when the approach of the Convention of 1890 is so near at hand. This is a portion of the Pharmacopœia which the Dispensatories failed to codify but is nevertheless of value to the druggists.

One of our leading medical journals takes exception to the prevailing method of naming new remedies. It says: "This christening could be done without resorting to naming new remedies *anti* this and *anti* that; such titles would seem to indicate a remarkable paucity of ideas or want of originality on the part of the inventor." The comment was undoubtedly made in the best of faith, and I agree with the editor that names more acceptable to professional men could have been selected. But the critic must remember that these *anti's* are copyrighted and the articles made to sell. The inventors have plenty of ideas and know how to name their goods so that there will be plenty of money in the enterprise. This class of inventors also have plenty of originality when it is required in the interest of their business.

The Board of Pharmacy of the State of Virginia has issued invitations to the Boards of Pharmacy in this country and Canada to be represented at a Convention to be held at Old Point Comfort during the meeting of the American Pharmaceutical Association there in September. I do not for a moment suppose that all the relations between the different Boards can be made satisfactory at such a meeting, but I am anxious to see it take place. A gathering of that nature will correct many differences and lead to other and more satisfactory meetings in the future. The meeting of the A. P. A. in California last year prevented the assemblage of such a Convention, but the central location of Old Point Comfort will present no such obstacle.

INCOMPATIBLES.

BY H. F. MEIER.

The practical pharmacist is frequently called upon to decide voluntarily or otherwise as to the possibility of agreement between various remedies which the prescriber desires to incorporate into one presentation.

Such a case occurred recently where it appeared desirable for the benefit of the patient to conjoin Donovan's solution with the pharmaceutical known as Hæmatic Hyphosphites. There is hardly any necessity of confusing the reader by a reference to the element of quantities, but better to confine his attention to the fact that an irreconcilable antagonism exists between these two preparations.

On mixing the two a precipitate is formed. Examination shows this precipitate to be a compound one, and the end products seemed to be derived from two readily recognizable sources. One is due to the mercuric iodide contained in the Donovan's solution, which enables it to act just as effectively in precipitating alkaloids as would Mayer's reagent (potassium-iodo-hydrargyrate).

In Hæmatic Hypophosphites, it should be remembered, there exist several alkaloids—quinine and strychnia. These would naturally be thrown down. Other elements that take a very pronounced share in the decomposition are the hypophosphites present. Hypophosphites are capable of reducing, in acid solutions, mercuric iodide, previously existing in soluble form, to *mercurous* or yellow iodide of mercury. That such a mixture is inadvisable, is shown by the fact that neither hydrochloric acid in moderate proportion, as existing in the gastric fluid, nor carbonate of soda aided by bile (representing the intestinal fluids), will re-dissolve the precipitate. Therefore it can safely be assumed that neither the acid gastric fluids, or the alkaline intestinal secretions, are capable of extracting any benefit from the several elements, iodine, quinine, strychnine, and mercury, if the proportions happen to be equivalent. In the case under consideration, it is altogether likely that iodide of arsenic would, to a greater or less extent, be separated and remain in suspension, though its activity might not be necessarily impaired. It would, therefore, commend itself to the prescriber to administer the hypophosphite syrup and Donovan's solution separately and apart from one another in time of administration, so that each would have an opportunity to be absorbed or assimilated before the other could come into contact with it in the same digestive tract.

[Viewing the above from a strictly medicinal standpoint, it would be impossible for a physician possessed of ordinary physiological acumen or physiologico-therapeutic information, to prescribe the two in conjunction. It will readily be seen that the composition of Hæmatic Hypophosphites is such that, to secure definite results it must be administered before, or in immediate conjunction with, the ingestion of food. On the contrary, Donovan's solution, or indeed any arsenical preparation or compound, must be given after meals, preferably a quarter or half hour after rising from the table.—Ed.]

CHEMISTRY.

NOTES ON ANDROMEDOTOXIN IN FOLIA KALMIÆ LATIFOLIÆ.

BY J. B. NAGELVOORT, PH. G.

It is desirable to have a few comparative figures on record as to the per cent. of *Andromedotoxin* in mountain laurel leaves, a fluid extract of the drug being yet used to some extent.

Prof. Plugge's method* is followed and the result subjected, successfully, to all the chemical tests for *Andromedotoxin*.

I offer the figures for what they are worth; the leaves were obtained in the open market; time of collection and all other botanical particulars, I do not know.

A watery infusion yielded........	0.1 per cent.
A watery percolate yielded.......	0.17 per cent.

0.45 mgram. (½ milligram) is a lethal dose per kgram. weight, and antidotes are unknown. It must do excellent service in killing vermin.

BOTANY AND MATERIA MEDICA.

BOLDO.

(*Peumus boldus*, Molina.)

BY H. H. RUSBY, M. D.

This increasingly important plant grows abundantly in Chili, chiefly in the central provinces, preferring sunny exposures among the mountains. It is not inclined to form thickets, though at the higher altitudes it becomes smaller and more straggling in habit; but in favorable locations it is a handsomely formed small tree, with a broadly spreading and very compact crown, in its general aspect not unlike a well shaped hawthorn. Although this compact habit gives denseness to its color, yet it has not the dark and glossy green of the myrtles which are often found in its company, nor of the gigantic soap-bark tree which towers above it. Its foliage has, in fact, a tinge of gray, greatly heightened in the dry season by the dust which so readily collects upon it as a result of its veiny and papillose surface.

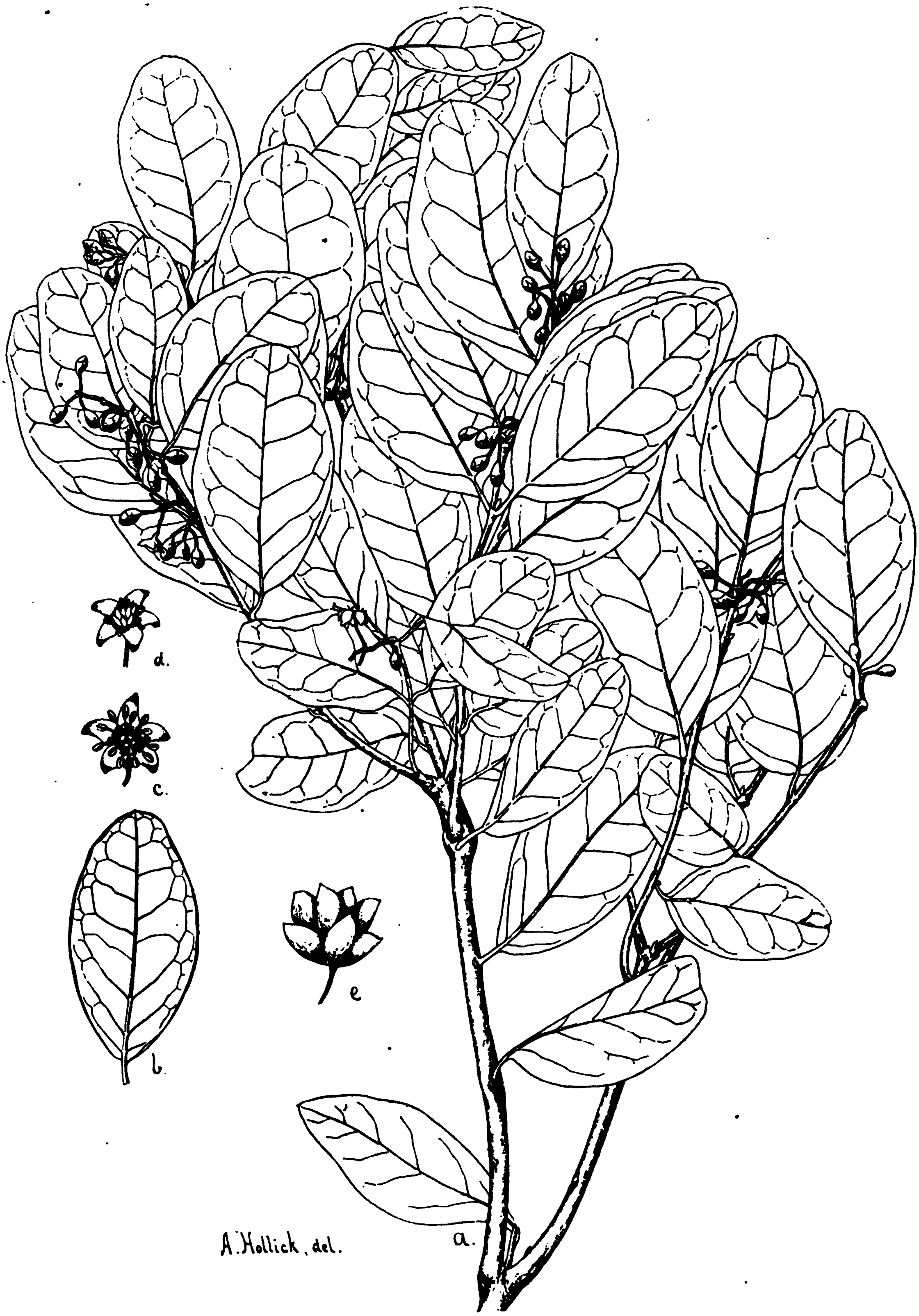
Should one inadvertently come into contact with the plant so as to agitate its foliage, he is quickly made aware of its presence by the strong, heavy, disagreeable, and often nauseating, odor which at once loads the air. Crushing a handful of the fresh leaves, a deep inhalation from them is almost over-powering to sensitive nostrils. The source of the odor is found in an abundant supply of volatile-oil glands with which the leaves may be seen to be dotted. These glands are prominent as elevated dots, although scarcely to be seen by transmitted light, owing to the thickness of the leaves. Very different is the odor exhaled by the flowers; for this, while strong rather than delicate, is decidedly agreeable.

The flowers are small, scarcely half an inch broad, and of a dull whitish color, hence individually of but little consequence; yet they are produced in such profusion as to greatly beautify the tree, and because of their long persistence and fine fragrance, they, in connection with the handsome form of the tree, render it well worthy of cultivation in such well adapted regions as Central and Southern California, and other Southern States. In the vicinity of Valparaiso, where I have seen it growing, it is liable to produce some flowers at almost any time during the winter season, and, in fact, I collected flowering specimens there near the close of June.

Aside from its ornamental and medicinal properties, the tree has but little value. Its yellowish white fruits, which are produced in great abundance, are said to be edible and very sweet, but they are only slightly fleshy, and I did not find that they were highly esteemed. They are, like the plum, drupes with solitary round and very hard stones, which constitute a favorite resource for beads for the rosary. The wood is quite useless, and, although some use is made of its charcoal, yet this is

---

* *Arch. d. Pharm.*, 1888, p. 997.



EXPLANATION OF CUT.—*Peumus boldus*, Mol., reduced about one-fifth; *a*. specimen of blooming branch collected by the writer near Valparaiso, Chili, in 1885; *b*. leaf of same; *c*. staminate flower; *d*. pistillate flower; *e*. head of fruit. (Figs. *c*., *d*., and *e*. are after Ruiz and Pavon.)

considered very inferior because it is kept afire with so much difficulty. A curious use is found by wine merchants for the bark, in removing from barrels the odor of vinegar which they have previously contained. For this purpose a decoction of the bark is used, and is said to be very efficient.

The leaves constitute the valuable portion of the plant, and a variety of uses are found for them. Parboiled, and sprinkled with wine, they are used to check catarrhal discharges, particularly from the nostrils, and to relieve toothache, but how applied we are not precisely informed. But their chief use is in the form of decoction or fluid extract, in dropsy. Although applied by the peasants to all forms of this affection, yet it would appear, from our better knowledge of the properties of the plant, that it is to those dependent upon hepatic disorders that the remedy is particularly applicable. It possesses, moreover, no mean repute as an alterative in syphilis, a very common disease in that country. In rheumatism the leaves are used in decoction, both internally and as a bath; or the boldo will be taken internally, and at the same time the leaves of the chequen will be employed in the bath. The leaves are also bruised, and the fresh juice applied within the ears in case of ear-ache.

As regards the relationship of this plant, we find very little to guide us, as it has no very near relatives which are well known in medicine. The small family to which it belongs, the Monimiaceæ, forms a member of that highly odorous group containing the nutmeg, sassafras, and coto, but none of these are very closely related to the boldo. It has in the Andes quite a number of relatives noted for their aromatic properties, somewhat similar to those of the boldo.

The volatile oil of boldo leaves has been known from the earliest history of the drug, and in 1888 it was pointed out in the *Pharm. Jour. and Trans.*, p. 887, that this oil was a commercial article. It was stated that it exists in freshly imported leaves in the proportion of 2 per cent., that it has a specific gravity of .918, and contains terpene and oxygenated constituents. It was furthermore said to be used as a remedy for liver affections aud gall stones, and against gonorrhœa, dyspepsia, and rheumatism. To how great an extent the oil was used in these diseases, did not appear. If such use were well founded, then we should be obliged to consider the oil as pretty thoroughly representing the medicinal properties of the leaves themselves. But it may well be doubted if such is the case.

In 1876, MM. Bourgoin and Verne discovered a very small quantity of an alkaloid, boldine, but it has never been believed that the minute quantity of this alkaloid present in the leaves exerts much influence in their medicinal preparations.

In 1884 M. Chapoteaut examined the drug for other constituents, and as a result discovered the glucoside boldoin (?), which exists in the proportion of $\frac{3}{10}$ of one per cent. It is obtained from the alcoholic extract, after elimination of its alkaloid and mucilaginous matter, by treatment with ether or chloroform. It is described as being a syrupy transparent body, of a yellowish tint and an aromatic odor and taste, having a formula $C_{30}H_{52}O_8$, and considered as a combination of glucose with an ether. It was at the same time investigated physiologically by Dr. Laborde, who found it to possess excellent hypnotic properties, and to be at the same time an active stimulant to the secretory functions, particularly of the bile, saliva and urine.

Had the drug been more extensively advertised at this time, it might long ago have become known as a very useful therapeutic agent; but it remained neglected. Recently, renewed attention has been directed to it, and the suggestion of Dr. Laborde, who discovered the action of its glucoside, that the latter possesses hypnotic properties, has been investigated with confirmatory results. In the craze for hypnotic chemicals now raging, we can scarcely look for much attention to similar remedies of natural occurrence; but when this shall have spent itself, and the unstable, and more or less uncertain qualities of the artificial compounds shall have become duly appreciated, perhaps this glucoside may become more valued. Its expensiveness, however, must prevent its general introduction as a hypnotic. While boldo leaves can be procured at possibly a little less than half the price of coca leaves, the hypnotic constituent exists in rather smaller proportion than does cocaine, and must cost at least half as much again as the latter; yet to be effective it must be used in from 5 to 10 gramme doses, which would cost therefore, under the most favorable circumstances, a dollar or thereabouts.

In this connection we should note the publication, in recent references to this glucoside, of the erroneous statement that it occurs in the proportion of 3 per cent. Three grammes of it were obtained from a kilogramme of the leaves, thus making its percentage as above stated, $\frac{3}{10}$ of one per cent. The use of the name boldoine as applied to the glucoside has also been very common and is erroneous, this being the name of the alkaloid and not of the glucoside. I can find no mention of a name having been assigned to the glucoside, though possibly this is the boldoin mentioned in some five references.

But the hypnotic action of their glucoside is by no means the only, or the most important, property of boldo leaves. There can be no doubt that other constituents act in some specific manner upon the liver, and used in this way, the medicine is only of moderate cost. In its own home boldo enjoys a domestic repute so positive and extensive that this fact alone entitles it to our attention. While our information from more acceptable sources is rather meagre, yet it is sufficient to indicate that this domestic repute probably rests on substantial grounds. So much interest has of late been expressed on the subject, that boldo is proposed for introduction into the next edition of the Pharmacopœia, and the proposition is likely to meet with favor. During the past year Dr. Campenon has published, in the *Revue Medico-Pharmaceutique*, his experiences with fluid extract boldo in the treatment of the early stages of cirrhosis of the liver. He believes that not only were the prominent symptoms, including ascites, relieved, but that a cure was effected. Even though this be not true, great relief was certainly afforded. Dr. Campenon begins with 5 drops before meals, increased daily by one drop until 15 or 20 drops are given, then as gradually reduced. "No hope," he says " of any material benefit can be entertained except as the result of prolonged treatment."

Below are presented the botanical characters of the plant, those of the genus in the first paragraph, and of the species in the second, translated from Gay's *Flora of Chili:*

Flowers diœcious. Masc.: Perigone campanulate, the limb 5-fid, the lobes spreading, within colored; 5 petaloid scales in the throat. Stamens many, inserted into the tube and throat of the perigone, the filaments eared above the base. Fem.: Scales of the throat of the perigone narrower. Stamens glandulariform. Ovaries 2 to 9, very shortly stalked in the fundus of the perigone, 1-ovuled, styles filiform. Drupes 2 to 3, 1-seeded, naked by the final falling away of the perigone. Seed inverted. Embryo straight, in the axis of fleshy albumen; cotyledons elliptical, plain; radicle superior.

A much-branched tree of an extreme height of 15 to 20 feet, aromatic, with cylindrical branches. Leaves of a somewhat ashy-green, opposite, oval-elliptical, sub-rounded at the base, obtuse and shortly petiolate, very entire, somewhat coriaceous, papillose-scabrous above, somewhat rough, about 1½ inches long and an inch broad. Flowers medium-sized, disposed in short, loose, dichotomous racemes in the axils of the leaves, borne to the number of 5 or 6 on cylindrical peduncles without bracts; carpels oblong, frequently 3 in number, entirely covered with stiff hairs, terminating in an obtuse style, elongated, hispid, and of a somewhat ashy-green when mature.

MONTHLY REVIEW.

In the *Druggists' Circular* for February, p. 31, is printed a paper read by John Findlay at a meeting of the Edinburgh Chemists' Assistants' and Apprentices' Association, on the subject of Fluid Extract Cascara Sagrada, in which he suggests that the official directions of the British Pharmacopœia should be made more specific by the use of the following form: "Boil the bark in six pints of the water for half an hour. Strain off the liquor and repeat the operation until the bark is exhausted, using four pints of water each time. Mix the strained liquids and evaporate by a water-bath to 12 fluid-ounces; when cold add the spirit, allow the mixture to stand for twenty-four hours, filter, and make up the volume of 16 fluid ounces with distilled water."

Upon the same page there is a very interesting communication by Prof. Romyn Hitchcock, on the subject of Japanese Lacquer, read at a meeting of the Washington Chemical Society.

This product is obtained from the *Rhus vernicifera* of Japan. For collection transverse incisions are made in the bark, and the exudation removed with a spoon. When the trees have become exhausted, they are cut down, and an additional amount is obtained from their branches. The sap is described as at first grayish-white and thick, quickly turning yellow and afterwards black. The several preparations of Lacquer are said to be sold at prices varying from two to seven dollars per kilogram. In the evaporation of this sap a high degree of heat—above 60° C.—effects a chemical alteration which destroys its power to harden on drying. This power is considered to be due to a peculiar albumenoid diastatic constituent.

Palm Oil and Palm-nut Oil.—A correspondent (S. D. A.) asks what is the difference between palm oil and palm-kernel oil? He has consulted the different Dispensatories without finding mention of the latter oil, and believes that, since it is not noticed, the two names apply to the same oil.

These are two different oils, and both very largely used commercially, chiefly in soap manufacture. The botanical source of the two oils is the same, that is, they are yielded by fruit of the same palm, although there are two palms contributing to the supply, the *Elæis Guineensis*, Jacq., and the *E. melanococca*, Gærtn.—both palms being natives of the West Coast of tropical Africa. Their fruit forms an immense head, like a great pine-apple, consisting of a great number—probably as many as one thousand—of bright orange-colored drupes, or "nuts" as they are called, about the size of a pigeon's egg, having a thin skin, an oily pulp, and a hard stone. From the oily pulp, or fruit flesh, the palm oil of commerce is obtained; from the kernel, or stone, the palm-nut, or palm-kernel, oil. The following, from a reliable authority,* we quote as giving an interesting account of the method employed by the natives of the West African Coast in the manufacture of these oils.

Commercial Palm Oil Manufacture. — The nut bunches are cut down from the tree and put in a heap outside in the air, where they are allowed to remain for a week or ten days, which causes the joints of the nuts to be weakened by the process of decomposition, and allows them to be detached by simply beating them against any substance; the nuts are gathered and the husks (decayed sepals) that adhere to their base removed, either by the hand or by rubbing them together, and separated by throwing them in the air and allowing a strong breeze to blow them away. A hole about four feet deep is dug in the earth, which is lined with plantain leaves, into which the nuts with the hard unyielding pulps are put, and covered over first with plantain leaves, and then with palm leaves and earth. The nuts are allowed to remain here for various periods, from three weeks to three months, until decomposition to a greater or less extent has taken place, so that when removed the pulp is soft and appears as if it had been thoroughly boiled.

---

*Kew Garden's Bulletin, November, 1889.

They are now put in a trough, made by digging a hole four feet in depth into the earth, and paving it below and around with rough stones. In some cases a portion of the nuts are boiled in iron or earthenware pots, and then mixed with the unboiled portion before putting them in the trough.

They are now pounded with wooden pestles by several persons standing round the trough, until the pulp is quite removed from the surface of the hard nut; the whole is removed from the trough, put into a heap, and the stones taken out, leaving the oily fibrous pulp which is put into a pot with a small quantity of water under a good fire, and well stirred until the oil begins to melt out. The pulp is then removed and put into a rough net opened at both ends, to which are attached two or three short sticks, by turning which in opposite directions the oil is squeezed out; from the nettings it runs into a receiver or tub, leaving the fibre behind. The longer the oil nuts remain underground, the thicker the oil will be when made; the quality will also be inferior, and the smell bad; *cæteris paribus,* the shorter time, within certain limits, the nuts are underground, the more superior will be the quality of the oil made from them. This in a great measure will account for the difference in the quality of the oil shipped from different parts of the coast.

Palm Kernel Oil.—The (nuts which have been subjected to the process already described in making oil) deprived of their external pulp, or old nuts picked up from under the palm tree, are put in the sun for days, and even months, until they are perfectly dry; they are then broken between two stones, and the kernels obtained whole, or in perfect condition, and fit for exportation; this is the commercial palm kernel. If they have not been perfectly dried, the kernels break into pieces. The kernels are put into a wooden mortar and pounded very fine, then removed to a grinding stone and ground into a homogeneous mass, which is put into cold water and stirred with the hand; the oil rises in white lumps on the surface of the water, which is collected and boiled; it is of a very light straw color, and sometimes even perfectly white.

Palm oil is, however, of an orange-yellow color, and is the oil with which druggists are most familiar. The melting point of the two oils is also slightly different, palm oil melting from 24.4° to 35° C., and palm-kernel oil from 23° to 28° C.—the great variation is said to be due to the length of time the nuts are kept underground. Palm kernels are now very largely shipped to Europe, where the oil is dissolved out from the ground meal by an extraction process, and the residue used up in cattle cake.

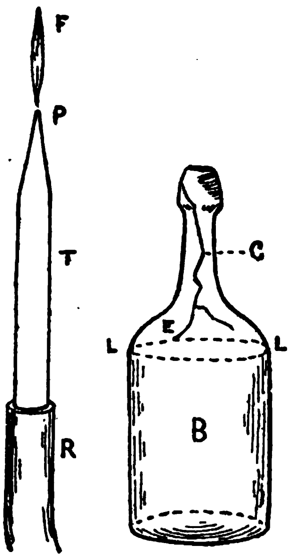
New or Noteworthy North American Phanerogams, by N. L. Britton, reprinted from the Transactions of the New York Academy of Sciences; Vol. 9, No. i, contains some notes of unusual interest. The plant described by Pursh, as *Caltha flabellifolia*, is reported from High Point, Sussex County, New Jersey; Pocono Summit, Pennsylvania; and West Hampton, Suffolk County, New York. The great rarity of this American plant, and the consequent want of specimens and information concerning it, have led to its exclusion as a species from all works on American botany. Its distinctiveness, however, cannot be questioned by one who sees it growing. *Castalia tetragona* (Georgi), Lawson, is reported as growing along the Severn River, Keewatin, Canada. Dr. Britton is in some doubt as to the identity of this species with the *C. Leibergii* recently described by Morong. Attention is called to a recent contribution by Prof. Sargent in *Garden and Forest*, in which it is pointed out that the real name of the tree yielding us maple sugar, and commonly described as *Acer saccharinum*, is in reality *A. saccharum*, Marshall. Several new species from the West are described.

The third number of Vol. i, of the *Memoirs of the Torrey Botanical Club* is entitled as follows: "*Hepaticæ Bolivianæ in Andibus Boliviæ orientalis, annis 1885–6, a cl. H. H. Rusby lectæ: by Richard Spruce.*" It is seldom that one who knows nothing of the classification of the lower cryptogams can become very deeply interested in technical contributions of this sort. But Mr. Spruce is such a happy master of language that he is enabled to present us with a paper eminently scientific and at the same time of absorbing interest to the general scientific reader. The important portion of this paper is found in the preliminary pages, in which the author presents an analysis of the genera enumerated, and remarks upon their geographical distribution and the relation of their representatives in the present collection to those of other regions. He finds that the general relations of the flora of this Andean region, are rather with that of the mountains of Mexico than with the other Andean regions intervening between Mexico and Bolivia. The fact is especially interesting, as we have already noted a corresponding dis-similarity in the Phænogamous plants of Bolivia and the regions immediately to the northward, while there is a marked similarity to the corresponding flora of the mountainous districts of Guiana. The paper comprises 28 closely printed pages, with 22 genera and 99 species—25 of them new to science—enumerated, the new species elaborately described in Latin.

Dr. F. E. Stewart Honored.—Dr. F. E. Stewart has been elected Professor of Pharmacy in the Powers College of Pharmacy, Philadelphia. He will also continue to hold the position of Demonstrator of Materia Medica and Pharmacy at the Jefferson Medical College.

Nut-Cracking Department.

Method for Utilizing Broken Bottles.



It often happens that cracked bottles are rejected, while with a little skill they might be made useful in many ways. Suppose bottle B is cracked as shown per C, the crack extends to the point E. Tie a string or a piece of cardboard around the bottle; trace a line with ink (LL); draw a glass tube (T) into a point (P); insert it in a rubber tube (R), connected with a gas jet. Light the gas, and a slender flame is obtained (F) about half an inch long. Apply the flame at E, receding slowly; the crack will follow, and with a steady hand and a little patience, the cut can be made so accurately as to divide the ink trace in twain all its length. The sharp edges of the resulting jar can be smoothed off with a file.

Standardized Preparations.

Opposition to the introduction of standardized pharmaceuticals into the next issue of the U. S. Pharmacopœia, is based on "our imperfect knowledge of the constituents of organic drugs, and the consequent lack of reliability of assay methods."

Can this be applied to the more useful and well known drugs of the Pharmacopœia, such, for example, as nux vomica, opium, mandrake, etc.?

The objection is also made that such assays "merely enable us to estimate the *percentage* of active principle without always furnishing reactions for *identity*."

Since it has been repeatedly proven, and every educated pharmacist knows, that two samples of commercial belladonna leaves, fully equal in appearance, can differ widely in medicinal activity (one can, in fact, be double the strength of the other), should not this "estimation of the *percentage* of active principle" be considered servicable?

So far as *identity* is concerned, the operator has (in addition to any reactions which can be considered reliable) at least the same assurance that he now has, "in handling, inspecting, and employing the drugs purchased as absolutely genuine and of prime quality."

It is also urged that assayed drugs possess advantages over assayed preparations "ready made," inasmuch as "various foreign organic substances might be fraudulently added to the fluid extracts, causing a precipitate with the reagent."

The fair-minded observer will see at a glance that such an advantage does not exist.

First: because while there may be some few who would resort to the contemptible practice of adulteration, our reputable manufacturers would probably not be called upon to defend themselves against such insinuations, or offer the trade any special assurance of their honesty in this direction.

Second: If they were disposed to resort to such a dishonest practice, why, in the name of common sense, could not such "various foreign organic substances" be fraudulently added to ground or powdered drugs as easily as they could be to "fluid extracts and other preparations, ready-made?" (Drugs must necessarily be ground or powdered, and then thoroughly mixed before the assay of a sample can be said to truly represent the quality of the entire lot, for the assay of one or several pieces selected from a bale of drugs will by no means represent it.)

It is finally proposed that "there may be a *few* physicians who would take note of the existence of assayed drugs and preparations, and arrive at a more definite knowledge of their therapeutic effects in given doses; *but does anybody believe that the medical profession, as a whole, or in its large majority, would pay any attention to it?* As it is, their attention is so absorbed by the ever-increasing field of other professional themes, that they would simply ignore, or at least soon forget, the existence of these accurately adjusted remedies."

If it is true that physicians in general are so little interested in the quality and uniformity of the remedies intended to serve as weapons with which they are to combat disease, and if pharmacists actually aim to make only such improvements as will arouse the enthusiasm of physicians rather than to contribute to real pharmaceutical advancement, then, of course, we can scarcely expect the Revision Committee to waste time on such a fruitless task, as the adoption of standardized preparations. Fortunatly, however, such is very far from being true, and the medical profession is foremost in demanding standardized preparations. Further, it seems that only those medical and pharmaceutical journals that "have an axe to grind," are found in the opposition.

Paraldehyd.

F.—You would be perfectly justified in dispensing a prescription with label directing that a dose of one teaspoonful be taken, providing that it was prescribed by a reputable physician.

Substitution.

While pharmacy as practiced by the retailer is steadily improving under the influence of pharmacy laws, pharmaceutical colleges and associations, and the enterprise of conscientious manufacturers, there remains a source through which many inferior drugs and preparations find their way into physician's prescriptions.

We refer to the practice prevalent among a certain class of jobbers of substituting for the best products of conscientious manufacturing pharmacists, wholly inferior preparations bought at correspondingly lower prices and affording a wider margin of immediate profit.

This class of jobber rarely comes in direct contact with the physician and consumer, and, unless he happens to be endowed with an unusually delicate conscience, will naturally learn to take a purely commercial view of all business transactions, and, an extra five or ten per cent. is apt to have more influence with him than the thought that the reputation of the dispenser or physician, and health, comfort, or life, of the patient are involved.

Wholesalers do not often buy inferior goods deliberately, but are sometimes led to stock them through "swapping" for certain products of their own, or for advertisements, or, perhaps they may be taken in liquidation of some questionable debt; and when once on hand they can only be turned into money by forcing them on the trade, or substituting them for the products of reputable manufacturers.

There is a growing tendency on the part of intelligent and conscientious retailers to protest against having such inferior goods forced upon them by jobbers who view as most legitimate that form of doing business which yields the most apparent profits on each transaction; but there are many who, while they do not relish the substitution, will retain the goods rather than remonstrate.

Nitrogenized Iron.

O. W. S.—" Nitrogenized iron " is a trade name applied to syrup of iron and soda albuminates, which can be used under that name.

A similar preparation is recognized and a formula given under the name of " Syrup of Albuminate of Iron and Potassa," in the U. S. Dispensatory. Soda can be substituted for the potassa in this formula when desirable.

Bismuth in Elixirs.

J. F.—We are not prepared to say that soluble salts of bismuth possess therapeutic properties equal to those of the insoluble salts, but can cite as evidence bearing on the subject that the soluble ammoniated citrate of bismuth has been used for a sufficient length of time to prove by its continued and somewhat increasing demand that it possesses some positive medicinal value.

This salt requires a neutral liquid for permanent solution, and bismuth elixirs or solutions should not be combined in a haphazard way in prescriptions, for the bismuth will usually be deposited soon after neutrality is disturbed by the addition of liquids or substances havan acid reaction.

Exhaustive research has been made with the hope of discovering some salt of bismuth which could be held in permant solution in the presence of free acids, but as yet nothing has been found to posses sufficient advantage over the soluble ammoniated citrate to supercede it in practical use.

It is commonly believed that the bismuth is precipitated from such solutions by acids of the gastric juice soon after entering the stomach.

Explosive Prescription.

A Correspondent askes us to explain why the following prescription exploded soon after it was mixed:

℞ Ammonium carbonate...........	℈ij.
Syr. squill......................	℥j.
Syr. senega......................	℥j.

The effect of the acetic acid in the syrup of squill has been overlooked; its action upon the ammonium salt would liberate carbonic acid gas, causing the explosion.

Sulphate of Zinc and Acetate of Lead in Prescriptions.

R. A.—It is by no means an uncommon thing for physicians to combine the above salts in prescribing, but while perhaps some of them do not take into consideration the fact that a mutual decomposition will take place, there are others who intentionally prescribe the combination, with directions to shake the bottle before using, being aware of the incompitibility, and believing that some benefit will be derived from the insoluble sulphate of lead remaining in contact with the inflamed membranes, while the acetate of zinc formed, acts in solution.

Such prescriptions do not, therefore, necessarily reflect on the intelligence of the prescriber.

You might suggest, incidentally, to the physician in question, that a more elegant prescription, from a pharmaceutical standpoint, could be obtained by combining acetate of lead with *acetates* of zinc and morphine.

Oleoresin of Male Fern.

"G. R. D."—This correspondent asks " What use can be made of the sediment which deposits from oleoresin of male fern, after the oil is poured off? "

To pour off the clear portion of the oleoresin and dispense it would be to commit a serious error, since the filicic acid has, to a large extent, separated from it.

It is the *sediment* in this case which represents the most valuable and active portion of the medicament.

When male fern is exhausted with ether, a clear ethereal solution is obtained, from which the filicic acid would probably not separate were it not that the solution is afterwards deprived of ether by evaporation.

Previous to the issue of the last U. S. Pharmacopœia, attention had not been sufficiently drawn to this fact, and many pharmacists dispensed the clear liquid, rejecting the sediment.

The last Pharmacopœia, however, on page 230, states that: "Oleoresin of aspidium usually deposits, on standing, a granular-crystalline substance. This should be thoroughly mixed with the liquid portion, before use."

Concentrated Opium Preparations.

Our attention has recently been drawn to an article in a pharmaceutical journal, wherein a correspondent objects to the introduction to the trade of certain preparations of opium, such as camphorated tincture, etc., in concentrated form designed to be diluted to the official strength, for the convenience of the busy dispenser.

This correspondent is represented as believing that "such procedure is calculated to produce mistakes and cause serious results;" also that "while the druggist who buys these concentrated preparations, may not himself dispense them undiluted, his clerk, not knowing of the purchase of such preparations, might dispense then as the official articles."

Now such an argument appears to us quite ridiculous; we see no reason why this same clerk should dispense *fluid* opium camphorated, instead of the corresponding *tincture*, sooner than he would mistake fluid extract of ipecac for syrup of ipecac, of fluid extract of belladonna, for tincture of belladonna.

It is not surprising that the pharmacist in question is fearful that his clerk should err, since his assistant has evidently been taught to dispense preparations according to his recollection of their purchase, rather than to examine the label upon the bottle from which they are poured.

Elaborate argument is unnecessary to convince intelligent and systematic pharmacists that this danger is purely imaginary.

Tutty Powder.

E. O.—Your interpretation of the prescription is correct. "Tutty powder" was evidently intended, although it could easily be mistaken for "Tully's powder."

Tutty powder is an impure form of zinc oxide, formerly used in medicine but now rarely met with.

"Tully powder" is a synonym for compound morphine powder.

Poison Label on Prescriptions.

O. J. F.—It is generally advocated that druggists should not put a "poison label" on poisonous prescriptions unless instructed so to do by the physician.

It is apparent, though, that no safe rule can be laid down for this; but that the dispenser must discriminate. An example was recently brought to our attention in which a certain pharmacist received the following prescription:

℞ Hyd. Bichlor...................... 10 grains
M. ft. Chart. No. ii.
S.—Use as directed.

——M. D.

It was prepared, labelled "Use as directed. Poison—with care," and delivered to the customer who, on account of the label, did not take it internally as directed, so was not poisoned.

The matter was referred to the physician who admitted that he had intended to prescribe "Hyd. Chlor. Mite."

Moral.—when there is doubt concerning the use to which such a dangerous prescription is to be put, it is best to risk displeasing the physician, and by affixing a "poison" or "caution" label, protect the patient and all concerned.

"*Huxham's Tincture.*"

R. G.—Although Tincture Cinchona Comp., U. S. P. is commonly dispensed on requisitions for Huxham's tincture, we believe that this name properly belongs to the Tincture of Cinchona Compound of the British Pharmacopœia, which is made from pale cinchona bark, while the U. S. P. tincture is prepared from the red cinchona bark.

This difference is recognized by some of our leading manufacturing pharmacists, who, you will notice, offer Fluid Extract Red Cinchona Compound, for preparing the U. S. P. tincture, and a Fluid Extract Cinchona Comp. for preparing Huxham's tincture containing the pale bark.

Magnesium Carbonate as a Filtering Medium.

A correspondent suggests the advisability of using magnesium carbonate to clarify wine of coca, made from the fluid extract. This we cannot endorse, and on the contrary, feel inclined to exclude magnesium carbonate from the list of substances to be utilized for this purpose, as there are inert substances that will answer as well, and when the use of magnesium carbonate is permitted at all, it is apt to be thoughtlessly employed in filtering some liquids containing alkaloidal or chemical salts, which are often decomposed and the preparation thereby injured or rendered inert.

Examination Questions.

Following are some practical questions selected from the examination papers used by the South Dakota

Board of Pharmacy, January 14th, 1890. Our young readers may find it profitable to look up information bearing on these subjects:

1. What is meant by an impalpable powder?
2. Define analysis? Synthesis?
3. Why should acids never be prescribed with liquorice?
4. What is an alkaloid? A glucoside?
5. What two ointments should not be made with an iron spatula?
6. What is a volatile oil? A fixed oil?
7. What is a neutral principle?
8. What is comminution; desiccation; deliquescence; distillation; destructive distillation; digestion; decantation; dialysis; efflorescence; elutriation; exsiccation; emulsion; effervescence; fractional distillation; filtration; granulation; levigation; maceration; precipitation; percolation; solution; sublimation, trituration?
9. Why should alkalies never be mixed with salts of the metals proper?
10. From what is carbolic acid obtained? Gallic acid? Salicylic acid?
11. Name a preparation incompatible with Fowler's solution.
12. To what does cherry-laurel water owe its activity?
13. What is a deodorizer? Disinfectant? Antiseptic?
14. Why are some salts acid in re-action, while others are alkaline?
15. What is a diuretic; an emmenagogue; a diaphoretic; a cholagogue; an emollient; an astringent; a tonic; an emetic; an alterative; a demulcent; an anæsthetic?
16. What is meant by colation?
17. What is produced if hydrogen is burned in oxygen?
18. What is understood by water of crystallization?
19. What do plants absorb from the air; what do they give off?
20. What is meant by the nascent state of an element?
21. From what is iodine obtained?
22. What acid do senna leaves contain?
23. What is phenol?
24. Is the tincture of chloride of iron a ferrous or ferric solution?
25. What effect has solution upon temperature?
26. May saturated solutions be used as solvents?

"CHESTNUTS."

"Genius consists in the power of doing much with little."

"Constant service brightens the bar of steel which would rust in idleness."

"A man and a pan can do many things in pharmacy, provided only, that the one has brains and the other capacity."

"Whatever troubles Adam had,
No man could make him sore
By saying, when he told a jest,
'I've heard that joke before.'"

"Men are contented to be laughed at for their wit, but not for their folly."

"Perfect valor consists in doing without witnesses all we should be capable of doing before the world."

"It is strange, 'though true,
Of a man who bets,
That the higher he flies,
The lower he gets.

"It is a wise fool who knows enough to keep it to himself."

"No one is satisfied with his fortune, nor dissatisfied with his own wit."

"If you would make an enemy, lend a man money and ask for it again."

"Joy, temperance and repose,
Slam the door on the doctor's nose."

"Josh Billings" once said "It's a good deal better to know nothing than something that ain't so."

"Plenty of sleep is conducive to beauty. Even a a garment looks worn when it loses its nap."

"If there is ever a time in life when a man gets thoroughly disappointed it is when he persuades somebody to get him up a dinner of things he used to like best when he was a boy."

"You may buy a million tickets
And never draw a prize,
But you'll double every dollar
That you spend to advertise."

There is no one thing that tends to increase the business of the pharmacist so much as to have the reputation of furnishing the best quality of drugs and chemicals at a just and reasonable price. Druggists should ever remember that cheap drugs do not pay."

"A philosopher sat in his easy chair,
Solemn and dignified;
He wore a grave and mysterious air,
While on a small glass slide
He mounted a *mite*, with appropriate care,
And reviewed his work with pride."

He took his microscope out of its case,
And settled the focus rightly:
The light thrown back from the mirror's face
Came glimmering upward brightly.
He put the slide with the mite in place,
And fixed on the cover tightly.

He turned the instrument up and down,
Till getting a proper sight, he
Exclaimed as he gazed with a puzzled frown,
"Good gracious!" and "Highty—tighty!
The sight is enough to alarm the town—
A mite is a monster mighty!"

From the other end of the tube, the mite
Regarded our scientific,—
To its naked eye, as you'll guess, the sight
Of a man was quite terrific,
But reversing the microscope, made him quite
The opposite of magnific.

"One sees the truth through this tube so tall"
Said the mite as he squinted through it,
Man is not so wondrously big after all,
If the mite world only knew it."

MORAL.

"Mem.—Whether a thing is large or small
Depends on the way you view it!"

Correspondence.

PARIS LETTER.

Four Hundred Thousand Cases of Influenza in Paris—Chabrie and Lapicque's Experiments with Selenious Acid—Arthaud and Butte on the Influence of the Vagus Nerve on Biliary Secretion—"Eschscholtzia Californica Francais"—Is Prussiate of Potash Toxic?—Kamenski's Studies of Acetaphenone—Action of Malt on Cod Liver Oil—Ural as a Hypnotic—Asparagin—A Clandestine Doctor—Death of Prof. D. Cauvet, Pharmacist of the French Army.

The influenza has lost vogue in Paris proper, but the Provinces are now taking their medicine with resignation, feeling that it would not be becoming in them to refuse anything that the great capital had accepted. The number of cases in the city is said to have exceeded 400,000; but medical men of conservative habits of thought say, that it would be well to first accurately define what constitutes a clear case of epidemic influenza, and then count the cases. As it is, many ordinary cases of a respiratory or malarial character have been jumbled in the reports as epidemic catarrh. As to the causes, course, symptoms and sequelæ of the disease, opinions are extremely varied and contradictory. As a consequence, the treatment has been marked by a liberty which may be called license. It is doubtful if the disease has been treated at all; but the doctors have prescribed for its symptoms, and experimentally, but rarely with very happy results. Pharmacy has fattened considerably on the epidemic, and the scientific press has groaned under articles which have explained little except a lack of real knowledge on the subject. The inevitable consequence was falling back on the ever-present microbe as offering the only tangible or safe explanation. And now we have a relapse of that terrible modern disease, microphobia, and the laboratories are busy with the sputum, the urine, and other secretions formed in a state of influenza.

Chabrié and Lapicque lately communicated to the Academy of Sciences the results of their experiments with selenious acid. They find that solutions of 2 to 1000 prevent fermentation in broths impregnated with the ordinary bacteria of the air. It is stated as a curious fact, that in milder solutions than this the selenious acid goes down as a precipitate on contact with the microorganisms. Thus it may be said that at a certain point, organic and inorganic chemistry meet. Selenious acid acts as a toxic agent of some power with the higher animals, and selenite of sodium has an irritant action.

In the Biological Society, Arthaud and Butte lately, presented an interesting paper on the influence exercised by the vagus nerve on the biliary secretion. The authors found that continuous, Faradic excitation of this nerve effected an augmentation of the biliary secretion. But excitation of the peripheric end—after section—caused a diminution of bile. It was demonstrated that the phenomena were not due to circulatory changes. Hence, the authors conclude that there is a vaso-motor action of the pneumogastric upon the liver. No doubt this study would be more appropriately used in a medical than in a pharmaceutical letter, but I mention it because there has been a discussion lately in one of the pharmacists' clubs over the supposed fact that physicians here are prescribing more and more with reference to the control of special nerve action—or the action of a particular set of nerves—in a given disease. It is said, for instance, that in the treatment of certain conditions of the digestive tract, such as dyspepsia and constipation, certain medicaments were added to mixtures with a view of causing an increase of secretions through the increased action of certain nerves. So many pharmacists have observed this tendency in prescribing, that there is no doubt some truth in it. But whether the circumstance is soon to change the basis of prescription writing, is a rather complicated question, even for a pharmaceutical club.

Two or more years ago, Stanislaus Martin called attention, in a brief paragraph, to *Eschscholtzia Californica* as a plant well worthy of the careful investigation of chemists. Martin died soon afterward, and, as far as Parisian chemists were concerned, Eschscholtzia died with him, for none of them have investigated it. The eminent pharmacologist did not know at the time he wrote of Eschscholtzia that an American laboratory already had the matter fully in hand and had quietly obtained clinical reports of it. Under these several circumstances, it is amusing to hear Frenchmen claiming that the great plant which they grossly neglected after the public admonition of one of their best teachers, is a French discovery (they should say "invention"), and that it has already been referred to—somewhat incongruously—as "*Eschscholtzia Californica Français.*"

Is prussiate of potash toxic? This is the startling proposition put before pharmacists in their current literature, and discussed pro and con. The amusing part of it is that no one seems to have thought of deciding the question by the simple expedient of "trying it on the dog." According to M. Carles, in *L'Union Pharmaceutique*, pharmacists "are in the habit of dispensing this drug with the greatest circumspection and surrounded with all the precautions required by law in the dispensing of poisonous substances." Then the author quotes from half a dozen standard works of chemistry to show that ferrocyanide is not at all toxic. Hence, the broad pharmaceutical smile which at present extends from the Champs Elysées to Montmartre. The circumstance reminds one of the Dutch sea-captain, who, in sailing into the port of New York, used to go two miles out of his course to avoid the terrible-looking barbette guns which adorned the fort on Governor's Island; he was afraid that one of them might "accidentally go off." Six years elapsed before he discovered that the guns were constructed of wood.

Kamenski (*Thèse de St. Petersburg*) has been making careful laboratory studies of acetophenone. His conclusions are that it lowers sensibility, and produces sleep, whether given in small or large doses. It accelerates the heart-beat and quickens respiration. In large doses, however, it paralyzes the respiratory centre, and may completely arrest respiration. It lowers the blood pressure by acting on the vaso-motor centres, and paralyzes the action of the heart. Medium and large doses reduce brain irritability. Light doses produce the same effect upon the spinal medulla. Truly, the way of the products of the aromatic series is thorny.

In the *Jour. de Phar. et de Chimie*, M. Adrian calls attention to what he describes as "the supposed power of the extract of malt in dissolving cod-liver oil." He finds that malt has no such power, and that the claimed action of diastase upon the oil has no existence. The division, he adds, is purely mechanical; the maltose and the dextrin act in the same manner as sugar and gum in the ordinary emulsion; the addition of a little water disassociates at once the constituent elements.

According to a recent study by M. Poppi, *ural*—made by combining chloral with urethane in the presence of concentrated hydrochloric acid—is preferable to urethane as a hypnotic. The effects of the latter he finds to be very variable, while he agrees with those who consider the use of chloral as dangerous in many cases. Ural, he says, will act almost instantly if given in alcoholic solution. It also has a more energetic and lasting action than urethane.

Asparagin, according to recent investigations by Bufalini and Lusini, does not possess the diuretic property claimed for it, and which undoubtedly belongs to the asparagus plant. Several patients who took 4 grammes (*sic*) daily, showed no augmentation of the urine, and no organic nitrogen was eliminated. The authors found that epidermic, muscular, hepatic, and pulmonary tissues, brought in contact with asparagin partially transformed the latter into succinate of ammonia, while saliva, gastric juice, pepsin, and bile, had no perceptible action upon it.

At Château-Gontier a "clandestine doctor" was recently discovered who was not only treating patients to the commercial injury of local physicians, but was selling his medicines with a vigor which threatened the surrounding pharmacists with extinction. And such medicines! The clandestine doctor gathered bones from the grave-yards, giving the preference to skulls. These he boiled and pulverized, and sold the resultant "preparations" at a high price to his credulous customers. The *Progrès Médical* (Feb. 8th) say that in the country there are many of these sorcerers. The law has only now begun to deal with them.

Much regret is expressed at the recent death, in Lyons, of D. Cauvet, Professor of Materia Medica, and Chief Pharmacist of the French Army. He was a pupil of Professor Clos, of Strasbourg. He was a distinguished botanist, and at one time his works were the standard guides of students in medicine and pharmacy. His *Eléments d' Historie Naturelle Médicale* was a great work in its day, and even now is preferred by some teachers. Professor Cauvet died of pneumonia, preceded by epidemic catarrh.

LONDON LETTER.

Coal Tar Musk—Cat Mummies in Medicine and Art—Lister's New Antiseptic; not a Chemical Compound.

The drug market is at present redolent of musk, and nearly every second person one meets on 'Change exhales from his clothing the powerful and aromatic scent of the *Moschus moschiferous*. Singular enough, however, as this is, it is still more strange to learn that no wholesale slaughter of the gentle musk deer has flooded the market with the familiar "secretion" (*v.* the Pharmacopœial definition!) and made it so cheap that it is allowed to waste its odor on the city air. If the uninformed stranger, acting on such an assumption, endeavours to negotiate for the purchase of the article, he will find that the trade in musk is more or less demoralized, so that the stock held by houses connected with the Chinese trade is remarkably small. Let him then inquire the reason of the simultaneous prevalence of musk odor, and of musk scarcity, and he will possibly have thrust into his hand a small bottle containing minute glistening white crystals, and bearing the startling legend "Synthetic Musk!" The substances, fantastic in name and wonderful in nature, that the Aladdin's lamp of chemistry has called forth from coal-tar, increase daily in number, and the end is not yet; perhaps synthetic musk is the latest and strangest child of that crude and evil looking mother. The first whisper of its birth was heard twelve months ago, but only quite recently has it actually appeared (except in quills of a few grains) on the market. Information as to its composition, its method and even the locale, of manufacture is extremely vague; the patent specifications seem to have been framed with a view to mystify as much as possible. It is said that the substance is being manufactured simultaneously in France and Germany, but the agent here has not yet received any stock, and probably only a few ounces have up to the present time been introduced into the country. The name of the inventor is given as Bauer, and the patent is believed to be in the hands of three French manufacturers, a chemist, an essential oil distiller, and a producer of artificial vanillin. Opinions as to the comparative strength and value of synthetic musk in perfumery, are so far very divided, and, naturally, time will have to decide whether it possesses the essential quality of permanence. On the whole, there seems to be no reason for anticipating that the best Tonquin musk will be displaced by the toluol derivative, though possibly we may see (and without regret) the disappearance of the commoner kind of Indian grain musk and of pod musk.

"Mumia Egyptiaca" has for years been a common item in the price-lists of Continental houses, and in some parts of Germany there is an intermittent demand for mummy for medicinal purposes. Whatever efficacy the substance possessed, was probably due to the bituminous materials used in the process of embalming, and to these also must probably be ascribed its value to manufacturers of certain pigments, who still create a fair demand for it. Dark tales are told of the rifling of ancient tombs by sacrilegious hands, and of the clandestine removal of century-old corpses for sale in the European drug markets. One cannot help feeling relieved to know that the Egyptian Government has effectually stopped the spoliation and placed all the excavations under strict supervision. There seems, however, to be another sub-class of the division Mammalia of the Animal Kingdom from which supplies of mummy may be drawn with less violence to our sensibility. This sub-class is that of Felinæ, and a few days since two steamers bearing the old-time names *Pharos* and *Thebes*, arrived in Liverpool from Alexandria with a consignment of some twenty tons of cat-mummies! Traditions have been long current as to the existence of a vast cemetery of such remains somewhere on the Eastern bank of the Nile, and of course, sooner or later, there presents himself the garden laborer, or well-digger, or the like, who incontinently tumbles headlong into the midst of the mummies, and immediately the long concealed vaults are made known to the world. The particular cemetery referred to contains many thousands of mummied cats (averaging in weight 4 ounces), which it is believed by experts, were reverently deposited in their last resting place nearly four thousand years ago—180,000 were sold two weeks ago in Liverpool to an artificial manure manufacturer at £3·13·9 a ton. *Sic transit gloria Felidæ!* From a purely commercial point of view, however, the new source of asphaltum might be worth the attention of Continental consumers; at least it would readily replace the mixture of resins, red ochre, old linen rags, and bones, which has been so frequently palmed off on the unsuspecting as "genuine mummy."

"Of the making of books there is no end," said a wise man of old; in these days he would probably have substituted "antiseptics" for "books." Each new antiseptic is introduced with a suitable flourish of trumpets, and confidently asserted to be about to force all others into the rear, when — Presto! another arises, which in turn attracts for a time the general attention. One of the latest introductions is "the double cyanide of zinc and mercury," which is supported by the great name of Lister. It is not easy to see how there is room for a body of this class, particularly when it is pointed out by Sir J. Lister himself that, although it arrests the development of bacteria, it possesses no power of destroying them, and must therefore be combined with sublimate. Still less *raison d'etre* has the new antiseptic in the light of the results of a chemical research into its constitution, undertaken by Prof. Dunstan in the Research Laboratory of the Pharmaceutical Society. Attempts to make a compound corresponding with the formula $HgZnCy_4$, by four different methods, completely failed. The reactions made use of are indicated by the following suppositious equations:

I. $HgK_2Cy_4 + ZnSO_4 = K_2SO_4 + HgZnCy_4$.

II. $ZnK_2Cy_4 + HgCl_2 = 2KCl + HgZnCy_4$.

III. $ZnK_2Cy_4 + HgK_2Cy_4 + 2H_2SO_4 = 2K_2SO_4 + 4HCN + HgZnCy_4$.

IV. $HgO + ZnCO_3 + 4HCN = 2H_2O + CO_2 + HgZnCy_4$.

In every case a precipitate was formed, but analysis showed that the percentage proportion of mercuric cyanide therein was respectively 17.7, 9.6, 8.46, and 1.60. Having disposed, partly by experiment and partly by reasoning, of the statement that a double salt of the formula $HyZnCy_4$ existed, Prof. Dunstan passed to the consideration of the suppositions which would explain the complete insolubility of the precipitate in water (mercuric cyanide is readily soluble, and would be at once separated by water from a mere mixture), and its freedom from irritating properties (which are markedly characteristic of free mercuric cyanide). These suppositions he reduced in number to four, as follow:

I. That the body is a chemical compound of unknown composition.

II. That it is a compound of mercuric hydroxycyanide and zinc cyanide.

III. That it is a compound of zinc hydrate.

IV. That it consists of insoluble zinc cyanide retaining soluble mercuric cyanide shut up or occluded in its particles, and so protected from the action of water.

Each of these suppositions was examined in turn, experimentally and logically, with the result that No. 4 was alone found consistent with all the facts. It was demonstrated that, by reducing the quantity of water present to a minimum (*i. e.*, using cold concentrated solutions), the percentage content of mercuric cyanide could be increased to a maximum of 36 per cent,; the proportion could be varied as desired by varying the quantity of water. Thus it seems that the new "antiseptic" is a substance of indefinite composition, and though, according to Sir J. Lister, it is even in the maximum strength free from irritating action, yet there does not seem to be very powerful reasons for introducing into our already overburdened materia medica, a "remedy" which, in composition is subject to arbitrary rule, and possibly to the caprice of manufacturers.

PHARMACEUTICAL NEWS FROM GERMANY.

Further New Remedies: Orexin and Orthin—Hard Times Coming for the German Druggist!—The Dangers of Sulphonal.

When the reader's eye scans the sub-title indicating the subject of the first part of my letter, he will wonder what kind of antiseptic or antifebrile remedy we have got now. Gentle reader, look not so bored; one at least of the two "new remedies" named, is neither an antiseptic or an antipyretic. Are you a Greek scholar? If so, you may be able to opine the medical use of *Orexin* (from ὄρξεις = appetite). Prof. F. Penzoldt calls orexin "a genuine stomachic," and judging from the very satisfactory results obtained by him in the treatment of 31 out of 36 cases of loss of appetite and enfeeblement of the digestive powers consequent on severe operations, phthisis, diseases of the stomach, anæmia, etc., his expression does not seem exaggerated. It certainly is beyond question that there is plenty of room in our materia medica for a true stomachic; the claim of rhubarb (in small doses) of bark, of condurango, and of the host of "bitters," cannot be said to be very well founded. By the use of these drugs the appetite often appears to be stimulated without a corresponding increase of vigor in the digestive function. Orexin is a chinolin derivative prepared by Dr. C. Paal, and forwarded to Dr. Penzoldt for pharmacological examination; the latter handed it over to H. Hofmann, a medical candidate who carried out physiological experiments with the compound, on frogs, dogs, and himself. The personal trials of the physiological effects of orexin were probably rather expensive to the medical candidate; in doses of 8 grains, it increased his appetite to such an alarming extent that he had to devour twice as much food as he usually required! The dosage was gradually increased to double the quantity above indicated; when 16 grains were taken, secondary symptoms first appeared, including slight *malaise*, giddiness, and determination of blood to the head. Not only, however, was the desire for food increased, but simultaneously the process of digestion was accelerated. A dose of 4 grains shortened the time occupied in digesting white bread by half an hour; 8 grains had an equal effect upon the digestion of meat. When these physiological experiments were complete, Prof. Penzoldt undertook the therapeutical trial of the virtues of orexin, with the results already recorded. The only precaution which experience showed to be necessary in its administration was with regard to its irritating effect upon the mucous membrane. To avoid this, orexin (or rather its hydrochloride, which, being readily soluble, was used throughout the research) was prescribed in gelatine-coated pills, and each dose (5–8 grains) was accompanied by a cupful of broth. The dose is best taken once daily, about 10 A. M.

It is regarded as well established, that there is a close relation between the properties, known as reducing (chemically applied) and those understood by the term, antifebrile. Indeed upon this treatment the attempt to produce synthetical antipyretics have been largely based. Among organic compounds, diamide and hydrazine, are possessed of enormous reducing powers, and the researches of Loew have shown indeed that they are too powerful to be safely introduced into the animal organism, since they break up and destroy the protoplasm. Several compounds have therefore been prepared which have consisted of hydrazin combined with, and as it were diluted by, complex aromatic groups; among these may be mentioned "pyrodine" (acetphenylhydrazin) and "antithermin" (levulinicphenyl-hydrazin). Another derivative has been recently prepared by Kobert the systematic name of which is *o*-hydrazin-*p*-oxybenzoic acid, which is abbreviated into "*orthin.*" Free orthin is a most unstable body, decomposing both in the solid state and in aqueous solution, into a perfectly inactive substance. The hydrochloride of orthin is a white mass which appears to keep well for months. A freshly prepared aqueous solution is colorless and possesses tremendous reducing power for the persalts of the heavy metals, and therewith are connected the considerable antiseptic virtues of orthin. Experiments on animals gave favorable results, but clinical trials were entirely negative; as an antipyretic it was found to be unreliable, and its administration was followed by a series of unpleasant secondary symptoms. In the form of 10 percent. ointment, against skin diseases (particularly psoriasis), it did not exhibit any advantages over other remedies in use.

On January 4th, 1875, a code of regulations came into force in Germany which were designed to protect the licensed *apotheker* from the competition, in the retail trade, of unlicensed druggists. These latter are often fully educated and examined pharmacists who do not choose to wait for a license to be granted them, or, not caring to expend the money necessary to purchase one, choose rather to carry on a kind of drug store business than to continue for life a simple assistant in the service of a more fortunate licensee. These regulations were found soon enough to fall short of what the licensed apotheker regarded as due strictness, and as a consequence the "druggist" was able to sell a considerable number of drugs, chemicals, and preparations which his licensed neighbour regarded as in justice his own monopoly. The general public being aware of the fact that the two classes of drug supplies are equally competent, largely patronise the druggist under the impression that by him they are supplied at less prices than those charged by the apotheker. This is certainly to some extent the case, and it is not surprising considering the smaller initial and current expenses of the druggist. However, darker days are in store for the latter; by a new decree which comes into force on May 1st next, the number of preparations legally salable by the unlicensed druggist is reduced to about 50 or 60, while whereas he can now sell 291 simple drugs or chemicals, he will have by the date mentioned to have got rid of his entire stock of 74 items in the list, including nearly all the new remedies. Under these conditions, there does not seem much chance for the druggist, though as no law was ever so framed as to prevent more of less evasion of its clauses, probably some loophole may be found through which the victim aimed at will escape from the strictures of the new decree.

Dissatisfaction continues to be expressed with regard to the therapeutical action of sulphonal. Dr. Umpfenbach, recording his experience with the substance (*Therap. Monatsch.*), supports the statement of other observers, that its administration requires careful watching. He points out by reference to one of the cases which he treated, that even in the small dose of 8 grains, two or three times a day, symptoms of poisoning may appear.

NEW YORK LETTER.

MARCH 6th, 1890.

The month of February has left an entirely satisfactory record in the wholesale drug circles of this city. True, the latter part of the month was not as active as might have been desired, but some reaction from the heavy rush of business during the month of January, had to be expected. The reaction however, has not caused any very general depression in the prices of drugs, although there has been a yielding in some few of the leaders. Nothing perhaps is more remarkable, than with the enormous consumption of quinine during the last two weeks of December, and the entire month of January, the stock should have proved sufficient not only to meet demands, but that as soon as the very active demand should cease, the drug should at once proceed to drop back in value. It only goes to show that there was little or no speculation during the active period of demand,—purchases being made for absolute wants and for consumption. During the past two weeks there has been a steady decline in the price of quinine, with no indication of firmness on the part of holders. The manufacturers have endeavored to sustain their prices, by continuing the higher quotations, but it seems that so large stocks were held in second hands, that the manufacturers have been powerless in controlling the market. Any of the brands may be bought, to-day at least, at 3 cts. per ounce less than when my last communication was written. There is no real reason for this that I am aware of, other than the absence of demand. The barks at the later sales abroad brought higher prices than at the former sales. The stock of barks has not increased, but on the contrary, has largely decreased, in spite of which fact, this decline in price has taken place. We think it therefore fair to assume, that when the usual spring demand comes on, the article will advance in value, as those who are now selling at the low prices to which we have referred, are doing so at an actual money loss, and cannot replace their stock.

Opium seems to have maintained itself, although during the past week considerable weakness has been shown on the part of the larger holders, and to-day it can be bought at from five to ten cents per lb. less than one month ago. We are without advices from Smyrna as to the condition of the crop, or as to the condition of the market. The absence of any advices, together with the very light demand, may be quoted as reasons for the weaker views of holders.

Morphine.—There is nothing that can be said concerning this article, it having held its own.

Citric Acid.—Absence of demand and active competition between foreign and domestic manufacturers, have resulted in a decline in price on this acid. We however, think this a proper time to buy, as it has fallen to a very low valuation, which must be enhanced with the advent of the warm weather.

Cod-liver Oil, Norwegian.—Has declined about 50 cents per barrel during the past month. Limited advices have been received concerning the new catch, which is now in progress in Norway, which indicate that the new product will be of high quality, and of a fair quantity. Nothing definite can, however, as yet be stated.

Ergot.—Although there seems a little weakness on the part of holders, there has been no material change in the price, as the demand has been very light.

Ipecac.—Continues in very light stock and great demand. There have been some fresh arrivals of the article in London, but in very limited quantities, and prices if anything are firmer than when my last communication was written.

Menthol.—There is really none offering in this city or abroad, and while some of our commercial papers have reported a decline in price in London, we have been unable to have such advices confirmed. To the contrary we have correspondence from Japan that indicate it to be in very light stock there, and which also gives reason to believe that very much higher prices will yet be realized.

Jalap.—It is a long time since the stock of this article has been as limited as at present. A still further advance in price has been realized, and there is no anxiety whatever on the part of holders to dispose of their stocks.

Jamaica Ginger.—The new crop is now arriving freely. Its quality, however, is very much below the ordinary. As a rule, the earlier arrivals of ginger are of a woody and quite ordinary quality—the better grades following later on. It therefore may be that the later arrivals will prove better, even though such as have already come to hand give no indications of that fact.

Golden Seal and Mandrake Roots.—Our market is full of both these roots. A very heavy decline in price has taken place, and we have every reason to believe that there is sufficient stock lying about to last consumers for at least two years.

Ginseng has for the past two months been ruling very low, owing to absence of demand for export to China. During the past week however more important orders have been received, and a corresponding rally in price has taken place.

Senna.—Some Tinnevelly Senna of very handsome grade has recently reached this market, placing importers in a better position for filling orders of a high grade than they have been for many months past. The supply however is limited, and will not go very far.

Buchu Leaves.—The earlier arrivals of the new crop are now coming in, and prove of very handsome quality. Fortunately the stocks of last year's collection are pretty well used up before the arrival of the new, so that there is no difficulty now on the part of the buyers in obtaining an article green and bright.

LITERARY NOTE.—P. Blakiston, Son & Co., Philadelphia, will publish, about March 15th, a new Medical Dictionary, by George M. Gould, A.B., M.D. It will be a compact one-volume book, containing several thousand new words and definitions, collected from recent medical literature, while the total number of words is beyond that in any similar book. It includes also elaborate and useful tables of the bacilli, leucomaines, ptomaines, micrococci, etc.; of the arteries, nerves, etc., and of the mineral springs of the U. S., together with other collateral information.

Book Reviews.

TRINIDAD ROYAL BOTANIC GARDENS for 1888. Annual Report.

An elegantly printed quarto of four pages, illustrated with four very handsome full-page engravings of tropical trees. This is but the second report of this garden, although a number of bulletins have been issued during the year, and it shows that the proposed work as outlined in the first report has been vigorously pushed. It is gratifying to read of the appreciation with which the labors of this institution are received by the cultivators of the Island. It is reported that the *Vitis Martini* finds a most genial home in Trinidad. The cultivation of nutmegs has been established on a large scale, and may be considered as very successful. Trinidad vanilla is not considered of the best quality, and the prospects for its successful competition with the Central American product are not flattering. *Cannabis sativa*, the source of "hashish," has been tabooed by the Goverment, as it is believed that its consumption by the people is demoralizing and tends to increase crime. A similar opinion is not entertained in Jamaica, where its free cultivation is permitted. Much success has attended the attempts to cultivate logwood.

Facetiæ.

DEAR EDITOR:—The enclosed recipe is a copy of one that was left yesterday for me to fill. It has not been called for yet, which is just as well perhaps, as I was unable to obtain the ingredients from our wholesale druggist.

I am suspicious of a joke being intended. Will you kindly give me your opinion.

Yours fraternally.

℞ Oleo. Res. Cabagadura,
Tinct. Misquidia,
Oil of Glass,
Pigeon's Milk.

Mix thoroughly and add a few hen's teeth.
Mix and take one hour after shuffling off this mortal coil.

DR. INFERNALITO,
Physician to His Satanic Majesty.

SHEOL, March 4th, 1890.

PSCHODDY'S SCHEME.

The fervor and resources of certain commercial travellers of the present era in devising new methods of securing patronage in all classes of business is notorious. To paraphrase an old adage, "for ways that are dark and tricks that are vain," the drummer is peculiar.

* * * * * * * * * * * *

We have an authentic report from a correspondent of one of these peculiar tricks recently played upon some druggists in his part of the country. Our artists have tried to sketch verbally and by their pens, the operation of this latest device of commercial ingenuity.

* * * * * * * * * *

Last week, in one of our rambles, we had the pleasure of inspecting a rather novel combination of tubes, cranks, etc., the invention of one Pschoddy, of Flipville, and operated at present by the "Cyclo-Chemical Association," of Smithtown, U. S. A. To more clearly illustrate the manner of operation, we have had our artist make the following cuts. The contrivance has been christened "The Mechanico-Commercial Legerdemain Exchange Bureau," and is manipulated about as follows:

Mr. Jones, whose store is represented by Fig. 1, in a fit of absentmindedness has bought a large stock of "Quickernblazesliverticklei." After having it on his shelves a couple of months, it gradually dawns upon him that the aforesaid "patent" is unsalable.

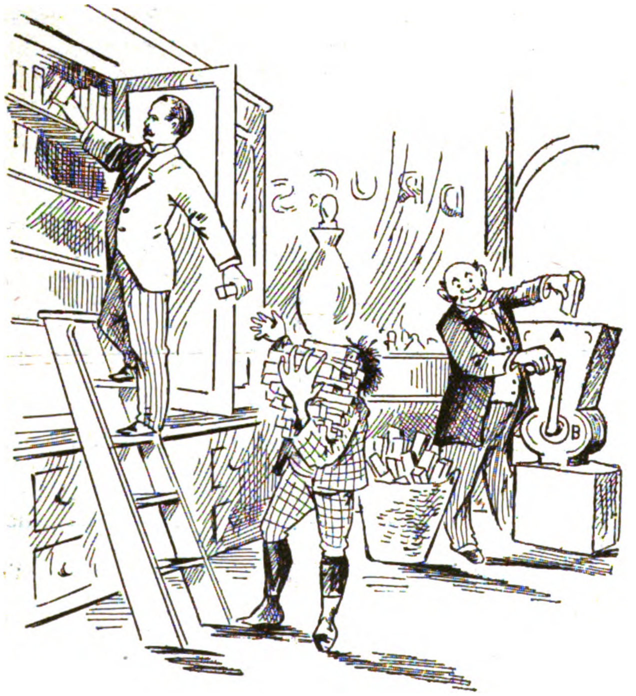


FIG. 1.

Now along comes the representative of the manufacturing concern pictured in Fig. 2, introducing Pschoddy's mechanical contrivance. Mr. Jones has one put in at once, is connected by pneumatic tubes with the "Cyclo-Chemical Association" (Fig. 2), and the following peculiar phenomena take place:

Taking advantage of a dull day, Mr. Jones, assisted by his clerk and errand boy, removes the stock of dead "patents" from his shelves; then taking a bottle in his left hand, he places it in the hopper A; gives the crank B a number of turns, repeating this till all have passed into the tube. Observe, if you please, the result of this action. Packages identical in appearance with those of Fig. 1 are seen to issue from the end of the tube C, in Fig. 2. Now a retroflex phenomenon occurs. An employé of the Cyclo-Chemical Association places a bottle of fluid extract, or some other standard pharmaceutical product, in the hopper at D, turns the crank E, hydrostatic presssure is induced, and Fig. 3 shows the result. This is repeated until Mr. Jones, who stands at F, Fig. 3, receives a specific number of such packages. The following telephonic conversation forms an accompaniment to the foregoing phenomena:

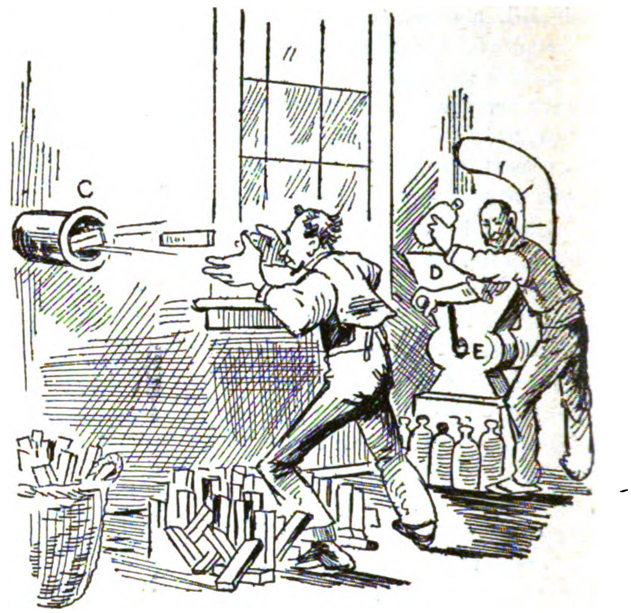


FIG. 2.

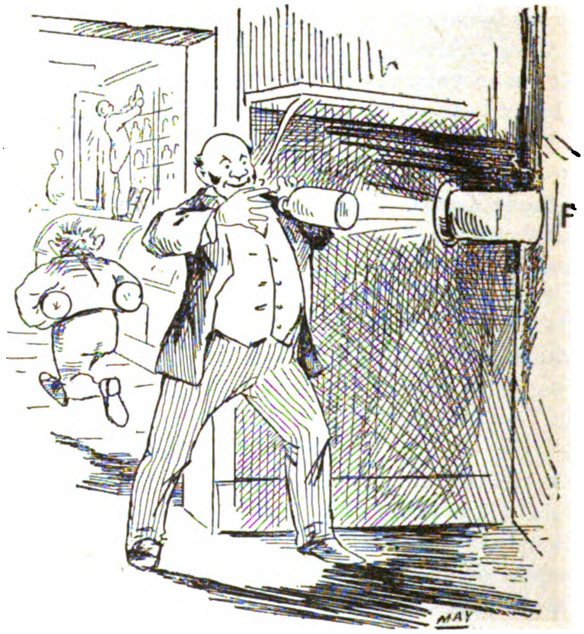


FIG. 3.

Mr. Jones—"Hello, Central! Give me 9004."

"*Hallo-o-o.*"

Mr. J.—Hallo! is that 9004?

Yes-s.

Mr. J.—Have just sent you, per pneumatic exchange, one gross of "Quickernblazesliverticklet," for which please return an assortment of leading elixirs.

O. K., hold your, phone a moment. Hallo Jones.

Mr. J,—Yes!

You will receive in a few minutes 21½ pounds of assorted elixirs per pneumatic exchange. Your consignment of "patents" has just blown in; will send bill by mail.

Mr. J.—Thanks! Good-bye.

Such is a brief outline of the action and purpose of this "Mechanico-Commercial-Ledgerdemain-Exchange Bureau," which, with the figures, may make the matter clear. Of course the system has its drawbacks, which will no doubt soon be overcome. For instance, in billing, the "Cyclo-Chemical Association," instead of writing "21½ lbs. elixirs. @ 98 c. 21.07," put it thus:

21½ pounds of exlixirs asst.=1 gross of Quickernblazesliverticklet. Rec'd payment, Cyclo-Chem. Ass'n."

Yet, on the whole, the scheme is a novel one, a break from the ordinary slow-going methods of so-called reputable manufacturing chemists, and we heartily commend it to any pharmacist who may have a dead stock of "patents," and is not over particular as to the quality of his pharmaceutical products.

A. Hother

Abstracts and Translations.

Price of Sulphonal.

In the *Pharm. Zeitung* of January 11th, 1890, we notice the following reference to the article sulphonal:

A price list, published by a certain house in Halle, Germany, states that continued over-production of sulphonal has reduced the price for the article which was, not much more than a year ago,200 marks per kilo (or about $22.50 per lb.), in such a manner that to-day, if at least one kilo is purchased at a time, chemically pure sulphonal can be obtained at 30 marks per kilo (or $3.35 per lb.), and in larger quantities these prices will even be reduced.

If a duty of 25 per cent. *ad valorem* be added to these prices, it will be readily seen by the medical profession and by druggists at what price the article could be imported, if it were not hampered by patents on the process of manufacture, *patent on the article itself*, and trade-mark on the name.

In the *Druggists' Circular* we find the article quoted at from $1.25 to $1.35 per oz., or about $20 per lb., according to quantity purchased, which the druggist, the physician, and (with the necessary addition of profit) also the public, will have to pay. Still we understand that it is even contemplated to take up the patented article sulphonal into the new Pharmacopœia.—*Sapienti Sat.*

Another Applicant for Admission to the Pharmacopœia.

Another aspirant for introduction into the Pharmacopœia has evidently put in an appearance, namely, the patent medicine, chloralamid. We notice in the *Oil, Paint and Drug Reporter*, for Feb. 12th, 1890, that letters patent have been granted to the "Chemische Fabrik auf Actien," formerly E. Schering, of Berlin, Germany, through their New York agents, Messrs. Lehn & Fink, who are the sole licensees in the United States and Canada, and consequently are the only parties authorized to import and sell the article. The process of manufacture has been patented, the substance itself has been patented, the name has been trade-marked, and the article has been withdrawn from competition. Such prices must accordingly be paid to the agents in this country as they and the mother house see fit to put thereon.

Articles are often taken into foreign Pharmacopœias, because in their own country, they are not hampered by patents and trade-marks, and the fact that an article is quoted in a foreign pharmacopœia should be no criterion for its adoption in our Pharmacopœia, for in this country, under our peculiar laws, the patenting of the *product* is possible, and it will prevent anybody from making the *same* product by *any* process *whatever*, thus withdrawing such article from *all* competition, which is the "life of trade."—*Exchange.*

Note on Aromatic Sulphuric Acid.

Having noticed that successive batches of aromatic sulphuric acid, although made according to the directions of the Pharmacopœia, have not corresponded with the sp. gr. and acidity given in that volume, I thought it worth while to record this fact. The sp. gr. given in the B. P. is .911, the acidity "about 12·5 per cent. of real sulphuric acid." I have found the sp. gr. to be about ·927 to ·928, and the acidity about 12·8 per cent. real sulphuric acid. If a public analyst can be found who is sufficiently energetic to advise a prosecution on account of deficiency of solid matter in tincture of rhubarb, it is clear that perfectly genuine aromatic sulphuric acid would be liable to condemnation as deficient in alcohol.

In order to definitely determine the sp. gr. I made a small quantity of this preparation, taking special precaution to avoid elevation of temperature during the mixing of the acid and spirit, all of the ingredients being measured at 60° F., and the sp. gr. of each taken before use. The B. P. formula is as follows:

Strong tincture of ginger.........	2	fl. ozs.	(·864)
Spirit of cinnamon................	2	"	(·843)
Rectified spirit....................	36	"	(·838)
Sulphuric acid.....................	3	"	(1·843)

After mixing I found the whole (at 60° F.) measured 42 ounces, 2 drachms, 40 minims, showing a contraction of 5 drachms, 20 minims in the B. P. quantity. The sp. gr. of this preparation was ·9285, or rather higher than I have usually found when working on quantities of 2 or 3 gallons. This does not quite agree with the sp. gr. as calculated from the initial sp. grs. of the various ingredients (given in brackets by the side of above formula), which is ·9234, but it must be remembered this experiment was performed with the use of ordinary measures such as would be used in pharmacy.

If the sp. gr. of the preparation be calculated from the quantities used, without allowing for contraction, it becomes ·9096, or very nearly the B. P. requirement.

The acidity when calculated from the B. P. formula is equivalent to 13·89 per cent. of real sulphuric acid, or almost exactly the same as I have found it in practice. From these considerations I should suppest the following amendment to the B. P. tests: "Sp. gr. ·923 to ·929; 176 grains by weight require for neutralization 500 grain measures of the volumetric solution of soda, corresponding to about 13·8 per cent. of real sulphuric acid."—R. A. Cripps in *Pharm. Journ. and Transactions.*

The Determination of the Diastasic Power of the Extract of Malt.

The above title indicates the scope of this brief note; it is not my intention to enter into the question of the value of extract of malt as a nutrient, but simply to record a fact of considerable importance in connection with the determination of its value as a digestive of starchy foods.

Considerable importance is attached to the estimation of this digestive power; it is therefore very strange that published results should show such extraordinary differences; *e. g.*, Messrs. Dunstan and Dimmock (who were, I believe, the first to introduce a ready method for making this determination) state that the best malt extracts of the market should completely digest *one-seventeenth* of their weight of starch in several (three?) hours (*Pharm. Jour.* [3], ix., p. 733). J. F. Carl Jungk, in a paper in the *American Journal of Pharmacy*, June, 1883, and *Pharm. Jour.*, xiv., p 104, describes a method whereby the effect of malt extract upon starch mucilage is tested at intervals of one minute, and says that good extract of malt should convert *its own weight* of starch within ten minutes at 100° F. Later still (*Pharm. Jour.*, xv., p. 236), T. S. Dymond compares the two methods above referred to, and, after condemning Jungk's method, states that a good malt extract should completely digest one-fifteenth of its weight of starch in half an hour at 140° F

I think the key to these divergencies will be found in the experiments recorded below. It is evidently not in the fact that malt extract has improved during late years, for Mr. Dymond's experiments are of later date than those of Herr Jungk.

	0.05 Gramme.				0.1 Gramme.			0.5 Gramme.			
	5 min.	15 min.	30 min.	45 min.	5 min.	15 min.	30 min.	5 min.	10 min.	15 min.	30 min.
Arrowroot..........	Done	......	......	......	Done	......	......	Br'ht br'n	Pale br'n	Done *	......
Maize..............	Bluish	Bluish	Done	......	Indigo	Indigo bl.	Violet	......	......	......	Clear bl ‡
Potato..............	Done	......	......	......	Done	......	......	Br'ht br'n	Pale br'n	Done†	......
Rice..........	Bluish	Pale blue	Done	......	Blue	Bluish	Pale v'let brown	......	......	......	Cl. v'let ‡
Wheat..............	Brownish violet	Violet brown	Violet tint	Very pale violet.	Brown-violet	Violet	Purple	......	......	......	Cl. v'let ‡

In the first place I will describe the method I am in the habit of using, for which I do not claim any originality, it being simply a modification of the foregoing processes:

1. Prepare a mucilage by mixing 1 gramme of potato starch or arrowroot (dried in an oven at 212° F.) with 10 c. c. of cold water; add 100 c. c. of boiling water, and boil the whole for half an hour; allow to cool to about 100° F., and make up the measure to 100 c. c.
2. Dissolve 5 grammes of the sample of extract of malt, in water sufficient to produce 50 c. c. of solution.
3. Dissolve 0.1 gramme iodine in 100 c. c. of water by the aid of 0.2 gramme of iodide of potassium.

50 c. c. of starch solution is introduced into a flask or bottle, and kept in a water-bath at a temperature of 98° to 100° F. until it has attained the same degree when 5 c. c. of the malt solution is added (also at 98°–100° F.), gently shaken to mix thoroughly, and replaced in the water-bath; after five minutes and at intervals of five minutes (or less if found desirable) 4 c. c. of the liquid is poured into a test-tube containing 1 c. c. of the iodine solution. A good extract of malt will give no indication of starch or dextrin after 10, or at most 15 minutes, while one which still gives a distinct coloration after 30 minntes should be rejected as quite unfit for use; that is, *extract of malt should completely digest its own weight of potato starch in 10–15 minutes at 98°–100° F.*

It will be remarked that I have selected potato starch or arrowroot for this test, other starches giving widely differing results. The accompanying table will indicate the importance of using one or other of these kinds of starch, and, as mentioned above, probably suggests an explanation of the widely differing results of other observers.

The different mucilages were all prepared as described above, and quantities of mucilage representing .05, .1, and .5 gramme of each starch (dried) introduced into the bottles, the bulk of each being made up to 50 c. c. with distilled water, and .5 gramme of extract of malt added to each.—R. A. Cripps, F. I. C., in *Pharm. Jour. and Trans.*

---

* Completed in 12 minutes.

† Completed in 12½ minutes.

‡ These colors refer to the liquid five times diluted; the color was too deep to be seen before dilution,

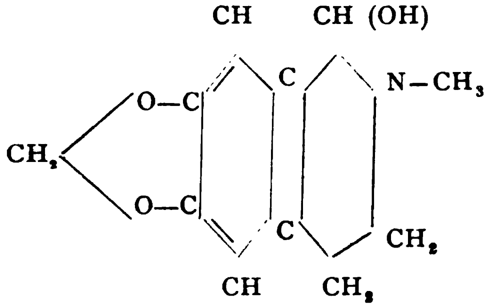
Hydrastinine in Uterine Hæmorrhage.*

Hydrastinine is formed, as has has been found by Freund and Will, from hydrastine, by oxidation, the latter splitting up into the base hydrastinine and into an acid,—opianic acid. If the hydrastine be gently warmed with diluted nitric acid, and the product precipitated with an alkali, we obtain the new base—the hydrastinine—in an almost pure condition.

From $C_{21}H_{21}NO_6+O+H_2O$ we obtain
(Hydrastine.)

$C_{10}H_{10}O_5+C_{11}H_{13}NO_3$
(Opianic acid.) (Hydrastinine.)

According to private statements of Dr. Freund, the hydrastinine is a derivative of isochinolin. Its formula may, with great probability be stated thus:



The hydrastinine in pure condition is perfectly white, melts in the test tube at 116° to 117° C. The base contains a molecule of H_2O so firmly bound, that on recrystallization from solvents free from water, it does not yield up this molecule; the salts, however, do not contain it. Hydrastinine is soluble in alcohol, ether, and chloroform with extreme facility; more difficultly soluble in warm water; and with most of the acids it forms salts readily soluble in H_2O. The hydrochlorate, $C_{11}H_{11}NO_2HCl$, is readily soluble in water; the solution exhibits slight fluorescence, possessing, with the free base, an intensely bitter taste, and it is optically inactive. The action of hydrastinine upon the animal organization I have tested on frogs and rabbits.

I made my experiments in the Pharmacological Institute of Berlin, employing the pure preparation furnished by Parke, Davis & Co., of Detroit, U. S. A. To Professor Dr. Liebreich and Dr. Langgaard I desire to express my sincere thanks for their kindly support in my labors.

In its application to frogs, hydrastinine acts as a paralyzing agent. The paralysis is purely central, because after ligation of the left iliac artery and subsequent injection of hydrastinine muriate under the skin of the back, we observe the occurrence of paralysis of the left posterior extremity, concurrent with that of the remainder of the body. The ischiatic nerves respond in like degree to the electrical current. In the case of toxicity produced by hydrastinine, sensibility remains undisturbed, without elevation of reflex action. Local symptoms of irritation are not produced by hydrastinine; from the point of injection, reflex actions are distributed in like manner as from all other superficial parts of the body.

Hydrastinine acts as a heart stimulant.

Of special interest to us in the study of hydrastinine, is the fact that it produces a decided vascular contraction. At the same time, however, the action of the heart becomes slower and stronger; the individual pulse-waves, therefore, become higher. No irregularity of the heart's action. The slowing of the pulse, which occurs during the increase of blood-pressure, is conditioned by an irritation of the central vagus nerves.

1. In both warm- and cold-blooded animals hydrastinine paralyzes, by means of its action on the motor sphere of the spinal cord, and a tetanic stage is not produced.
2. It increases the contractile power of the heart-muscle. It is not a cardiac poison.
3. It has no local effect on the muscular tract.
4. It produces vascular contractions by its action on the vessels themselves, resulting in increased blood-pressure, which, in the beginning, is periodic and quite pronounced, persistent, and not interrupted by any symptoms of relaxation.
5. Concurrently with the increase of blood-pressure, we find an irritation of the vagi, which produces a slowing of the pulse.
6. At death the lessening of blood-pressure is of a secondary nature, not dependent upon a relaxation of the blood-vessels, and removable by means of artificial respiration.
7. Death ensues in consequence of paralysis of the respiratory centres.

The successful results can be summed up as giving 84.6 per cent. of the cases of uterine hæmorrhage treated.

A critical summary of the cases leads us to infer that curable instances are preferably those in which menorrhagia and metrorrhagia preponderate—also, those of congestive dysmenorrhœa, and in mild attacks of endometritis, by which the causation of too decided and too frequent hæmorrhages are removed—define the boundaries of this treatment.

An important question which must be considered is, How shall hydrastinine be employed?

I inject daily one-half syringeful of a ten per-cent. solution, representing .05 gramme (¾ grain) of hydrastinine muriate; and, as soon as the hæmorrhage commences, a syringeful, representing .1 gramme (1½ grains), until its cessation. In cases of irregularity, I injected every-other-day, or perhaps two to three times a week, .05 gramme (¾ grain) of hydrastinine, using the following formula:

℞. Hydrastinine muriate... 1 gramme (15 grains).
Aq. dest............ 10 grammes (150 gtt.).
D.S.—For subcutaneous injection. Dose, ½ to 1 syringeful.

As an experimental feature, I made use in the injections of a quantity reaching up to .15 gramme (2¼ grains), but discovered that these large doses offer no advantage over those previously employed, representing from .05 gramme (¾ grain) to .1 gramme (1½ grains) of the salt. It is noteworthy, however, that no bad results have been noted after the larger injection.

I may here remark that, while the price of the hydrastinine is at present rather high, it should be remembered that the very moderate quantities needed—during each month not exceeding over 1 gramme (15 grains) for each patient—are not such as to preclude its employment for economical reasons.

---

*Abstract of article by Edmund Falk, M. D., Berlin, published in Therapeutic Gazette, Feb. 4, 1890.

From the Pharmacological Institute of the University of Berlin, Germany.

The Purity of Sweet Spirits of Nitre as Found in the Shops.

There are probably few drugs which have been used in the past so largely as has sweet spirits of nitre, and a still smaller number which retain their hold upon the domestic medicine-chest with greater tenacity. Unlike most of this class of medicinal agents, it possesses very distinct power for good in several widely separated maladies, and rarely if ever does harm unless the amount given be very large indeed, when symptoms of poisoning by a nitrite assert themselves. As every one knows, sweet spirits of nitre is a mixture of alcohol and ethyl nitrite, and the importance of this second constituent has been recognized as a most valuable part of the drug in the past, while at the present time its importance is pressing, from the fact that so many of the various nitrites have been recently brought into use in medicine.

Sweet spirits of nitre, unless kept well corked in black bottles, readily undergoes changes, becoming acid with age, amounting to little more than so much alcohol so far as therapeutic properties are concerned. Further than this, it has been found by Squibb, and others, that dilution with water and alcohol is commonly practiced by unscrupulous druggists. Water, when added, does harm not only by dilution, but by the chemical changes it brings about. The United States Dispensatory states that the dilution may be up to three or four parts in some stores.

With the object of discovering how generally, bad specimens of the drug were sold, I have tested 25 samples obtained at widely scattered points in Philadelphia, using as a test for the presence of the ethyl nitrite, antipyrin—which is a more simple method than those recommended by chemists generally, and one readily employed at any time by the ordinary practitioner. It will be remembered that the presence of ethyl nitrite causes a deep green color to appear when antipyrin is added, forming iso-nitroso-antipyrin.

The results reached are as follows:

Very good	4
Good	8
Poor	5
Very poor	4
Absolutely devoid of ethyl nitrite	4

That obtained from stores which rank as the best and high-priced, was found to be in three cases only fairly good. One sample, found to be utterly worthless, was sold at a store the name of the proprietor of which has been a by-word for honesty for thirty years. Most of the very weak specimens were purchased, however, at stores in poorer sections of the city. In view of these facts, it may be well for physicians to employ the test named. A standard solution of antipyrin should be made which can be used in all examinations. Ten to twenty grains to the ounce of water are sufficient.—H. A. Hare, Demonstrator of Therapeutics, University of Pennsylvania, in *University Med. Magazine*, Dec., '89.

Pharmaceutical Progress.

How Rust Spots May Be Removed.—Rust spots may be removed by stretching out the moistened spot over a piece of white tin or zinc plate, then rubbing it with salts of lemon or oxalic acid, or cream of tartar. Rust spots are most readily removed from white material by stannous chloride; but the material must be at once washed out with water, otherwise the fibres will be destroyed by the salt.—*Pharm. Post,* January 5th, 1890.

Explosive Medicines.—Chlorate of potash mixed with wood charcoal (tooth powder) may explode even in the mouth. Chlorate of potash mixed with catechu or tannin explodes during trituration, even on the addition of glycerin. Chromic acid, mixed with glycerin in the proportion of 1 to 2, explodes at once. Bromic salts and alcohol frequently explode through the formation of ethyl bromide. Picrinic acid in the form of a powder explodes on mxture with certain substances.—*Gazette de Gynecologie.*

Extemporaneous Hydrochlorate of Quinine.—Weld gives the following method for the extemporaneous preparation of quinine hydrochlorate, in the *Pharmaceutische Post:*

Boil sulphate of quinine for ten minutes in a closed flask along with alcohol and common salt. Concentrate the solution, and let cool. The sodium sulphate formed by decomposition, and the sodium chloride in excess, will be deposited. Decant the liquor, and continue the concentration, when the quinine hydrochlorate will crystallize out.—*National Druggist.*

Frangula Bark.—In his commentary upon the Pharmacopœia Germanica II, Schlickum refers to the fact that bark which has been stored for two years should alone be employed, as the fresh bark possesses emetic properties. How true this is, was experienced shortly by G. Calvo, apothecary at Koschentin, who employed an old Frangula powder for the preparation of a medicament, but who ground up some fresh Frangula bark, when the prescription was repeated. After taking this fresh powder, the patient (who was pregnant) vomited after swallowing only half a dose.—*Pharm. Post,* Jan. 1890.

Other Rhamni barks, such as Purshiana, etc., should be stored an equal length of time.—Ed.

A Water Jacketed Flexible Tube.—It is often convenient to conduct gases through flexible tubes, but the convenience is not without its disadvantages, since some gases diffuse readily through rubber. Having to deal with electrolytic gas in a research on explosions in tubes, and believing that some error would be introduced by the use of rubber tubes as usually employed, I devised a flexible tube almost quite free from the disadvantage mentioned. As the device may possibly be of use in the laboratory, I venture to send the following description of it:

A length of small rubber tube is drawn through another tube of equal length, but of greater diameter; each end is furnished with a small length of glass tube fitting the smaller tube; one end is bound off with cord, then the space between the inner and outer tube is filled with water or any liquid required; the other end is then bound off. By this means a water-jacketed flexible tube is easily constructed.—Frederick J. Smith, in *Chem. News*.

DISTINCTIVE TESTS OF ALPHA AND BETA NAPHTHOL.—It is sometimes necessary to distinguish between these two closely-allied bodies. The following tests give an easy means of separating them, when applied to the undissolved bodies:

	α-naphthol.	β-naphthol
Sol. chlorinated lime	violet coloration	greenish-yellow coloration.
Sol. potass. ferrocyanide	violet coloration	faintly yellow.
Sol. potass. ferridcyanide	brown coloration	greenish-yellow.
Sol. ammonia	colorless	greenish.
In alcoholic solution.		
Sol. ferric chloride	violet precipitate.	greenish coloration and precipitate.

Unless α-naphthol is specially indicated, β-naphthol should be supplied.—M. Verhassel, in the *Journal de Pharmacie d'Anvers*.

ADULTERATION OF SAFFRON.—M. Ferrand investigated a saffron which, according to external appearance, could be regarded as very good genuine saffron; the proportion of moisture was 8.5 per cent., but of ash 26 per cent. A more accurate microscopic examination showed that the individual stigmata were provided with a crystalline coating. On softening with water, it could be observed how a heavy-colored powder became removed. This powder was examined and proved to be barium sulphate; it formed 29 per cent. of the saffron. Besides, the presence of 11 to 12 per cent. of honey was determined. The adulteration had been performed very artistically, and could not be discovered by the naked eye.

The barium sulphate had probably first been colored, by pouring saffron over it, and then dried. With the help of honey, it was united with the saffron closely, and the whole dried in the air.—*Jour. de Pharm. et de Chim.*, T. XX, 1889.

ALKALOIDAL REAGENTS.—A. L. Brociner (*Jour. Pharm. Chim.*, 1889, p. 390) draws attention to a solution of 1 gramme perrutheniate or rutheniate of potassium in 20 c. c. very pure concentrated sulphuric acid (sp. gr. 1·184) as a reagent for alkaloids. *Solanine*, with a drop of this reagent, in a few minutes begins to assume a red color; after about 20 minutes the whole liquid has acquired the same color, which disappears on slight heating. *Ononine* is colored immediately brownish-red. *Chelidonine* gives a green coloration. *Imperatorine*, at first blue, soon changes to an intense green. The latter reaction is best obtained with the perrutheniate, while rutheniate gives the best results with the rest. The author furthermore calls attention to a solution of 1 gramme ammonium uranate in 20 c. c. concentrated sulphuric acid. This solution must be prepared just before using. *Codeine*, on slight heating, gives a blue color. *Imperatorine*, also, gives a blue color, which soon disappears, especially on heating. *Morphine* gives, on warming, a dirty green color, which slowly disappears.– *Amer. Journal of Pharmacy*, February, 1890.

A NEW SIGN FOR DISPENSING.—It has long puzzled some of the poor penmen that are so frequently found in the medical fraternity, to make suitable distinctiveness between the time-honored signs used for the drachm and ounce. It puzzles the pharmacist to read the writing of many of these same physicians, and frequently the characters to designate quantities are so indistinct that reliance upon the dose of the article in the form administered is the method that the dispenser employs.

Recently some one suggested in a medical journal that the distinctive sign for the drachm be the Greek letter Δ the fourth in that alphabet, and corresponding to the letter D. If, therefore, any of our readers should receive any prescription in which after any drug or chemical occurs the sign which resembles a pyramid he must not conclude that the writer is "out of sorts," but that he means to represent the word "drachm," and the quantity or the number or part of that quantity will be symbolized as usual in times past. Such prescriptions have made their appearance in this city and elsewhere, and we have had numerous inquiries as to the meaning of this hieroglyph. Now if some of the physicians will use a little more care with their penmanship, it will render the lives of the pharmacists less burdensome.—*Pharm. Record.*

ANTIPYRIN AND CHLORAL HYDRATE. — A few months since (*Pharm. Jour.*, July 27th, p. 61) M. Blainville reported that when antipyrin and chloral hydrate are dispensed together, an oily liquid is formed in which crystals are subsequently found possessing the taste of neither the one or the other compound. This statement is confirmed by Herr Ludwig Reuter, who has made a closer investigation of the crystals as to their nature (*Apot.-Zeit.*, January 25th, p. 45). They were found to be only slightly soluble in cold alcohol, ether or chloroform, a little more soluble in boiling alcohol and boiling water, and totally odorless and tasteless. When treated with cold caustic soda solution, there was no separation of chloroform, while with ferric chloride there was only a slight yellow coloration, not at all the characteristic red of antipyrin. Upon heating the crystals with caustic soda solution, decomposition took place, traces of chloroform being at first given off, and then much isonitril, together with a separation of antipyrin and its decomposition products; the acidulated liquid then gave an intense red color with ferric chloride. Nitrous acid had no effect upon the crystals in the cold, the characteristic blue-green of isonitrosoantipyrin not being produced. It would appear, therefore, that from antipyrin and chloral hydrate a rather stable compound is formed, described by Herr Reuter as "trichloraldehydphenyldimethylpyrazol," with which composition he considers the results of his analyses to have been in accord. He states that the same compound is easily obtained upon heating together chloral hydrate and antipyrin to 115° C., and that it crystallizes from alcohol in dense scales. Upon rabbits the new compound failed to produce the effects characteristic of either of its constituents, and as far as the experiment went it appeared to be a therapeutically indifferent body.—*Pharm. Jour. and Trans.*, February 1st, 1890.

THE UTILIZATION OF OLD CORKS.—In the following I would direct attention to a process for cleaning corks which have been used. It may be familiar to many of my colleagues, but it is at any rate worth renewed mention.

In view of the high prices of corks, their consumption in the apothecary shop occasions a considerable annual expenditure, inasmuch as, not only in the prescription department, but also in counter sale, large quantities are daily given away to the public without remuneration.

Now, in order at least to be able to supply cheap corks to the public in sales made over the counter, I recommend the following: In my business, when bottles are received back and prescriptions are repeated, all soiled and ill-appearing corks are retained and collected in a special drawer, the patient however, always receiving a new cork.

When several thousand have thus accumulated, I have them cleaned thus: The corks are first put into a lukewarm solution of chloride of lime to 6 litres of water ½ lb. chloride of lime), thoroughly washed therein, and permitted to remain for about 24 hours. They are then removed from the chloride of lime solution, and rinsed off with water in a wire sieve. They are then placed in dilute sulphuric acid (about 1 lb. to 6-8 litres of water), in which they are again permitted to stand for 24 hours with frequent stirring. They are then again placed on the sieve, rinsed off and poured into a very weak solution of soda, to neutralize the acid. The corks are then rinsed off once more and dried. I must add that a weak solution of soda is to be used, about 100 grm. to 6-8 litres, as a concentrated solution readily colors the cork brown.

The corks, treated in the foregoing manner, are perfectly white and neat, and scarcely distinguishable from new ones.

I always give them to the public in sales over the counter and use them occasionally in dispensing medicine for external application, to which no one can object. —*Pharm. Zeitung*, p. 770, December, 1889.

LEGAL SALE OF ALCOHOL BY DRUGGISTS.—Registered pharmacists of this Commonwealth are licensed or registered by the Board of Registration to compound or sell drugs or medicines of all kinds without restriction; except that in the case of sales of certain poisons a record must be kept of same unless sold on a physician's prescription. The question oft times arises, what are medicines? By consulting "Webster" and others we find medicines to be any substance, or combination of substances, given in sickness with a view to allaying or curing disease. Such being the case, druggists require no "sixth class" license to sell liquors for medicinal purposes unless doing business without proper registration, neither do they need any appointment as "agents" to sell liquors for medicinal purposes, as proposed by Rev. Hugh Montgomery, as every druggist who is properly registered has been granted the agency or license to sell for medicinal purposes all goods required for sickness or disease. Honest druggists require no further license to sell for medicinal purposes any goods. As to selling liquors for mechanical or chemical purposes, alcohol is most required, and Chap. 100. Sect. 2 of Acts of legislature 1882 reads: "Druggists may" (not shall, or shall not, but may) "sell pure alcohol for medicinal, mechanical and chemical purposes."

If, however, a bill were presented to the Legislature asking that the "Law Regulating the Sale of Poisons," Chap. 209 of Public Statutes, be so amended, that a record shall be kept of all liquors sold by druggists for medicinal purposes, no doubt it would pass both branches and become a law. All druggists should keep such a record for their own safety, and cause the applicant for all liquors for medicinal use to certify to such on an application slip. Should the law require a record to be kept subject to the inspection of proper officers, a still greater safe-guard would be thrown around the druggist, purchaser, and community.—"Reader" in *New England Druggist.*

SOLUBLE ESSENCE OF GINGER.—Some years ago my attention was directed to this essence, and I commenced operations by an examination of the various soluble essences of ginger put forward by numerous makers, and although satisfied that there were some good individual points in some of the samples examined, yet there were but two which could be said to bear any approach to my idea of what a really good soluble essence of ginger ought to be.

In the outset I, therefore, laid down what I considered should be the governing points of my work:—

1. That the "essence" should be as strong as possible and compatible with its solubility.
2. That it should possess the fine aroma peculiar to Jamaica ginger.
3. That it should be perfectly free from capsicum.

And now, after a long series of experiments, extending over a period of two years, I have at last succeeded in producing from the following formula a soluble essence of ginger quite equal to anything on the market:—

Working Formula.

Ginger, in coarse powder	1 lb. 8 oz.
Alcohol (60 per cent.)	2 pints 5 oz.
Water	15 "
	3 pints.

These are to be frequently shaken together for ten days, then percolated, pressed off, and filtered, yielding 45 fl. oz This is "not to be made up" to 60 fl. oz., but worked from as it stands.

Take of the above tincture 40 fl. oz, water 40 fl. oz., and mix; ¾ oz. phosphate of soda, dissolved in 5 oz. boiling water and allowed to cool, is added, shaking the mixture; next ¼ oz. fused chloride of calcium dissolved in 5 oz. nearly cold water, the whole to be again well shaken; allow to stand twelve hours, and filter.

Introduce the filtered solution into a still, and distill off, at a very low temperature, 30 fl. oz. first, which put at one side in bottle for further use.

Distill then a further quantity of 40 fl. oz., and allow the still to cool.

The residue in the still, which will be about 18 fl. oz., is what we require. This must now be carefully got out by rinsing the still with the 30 oz. first drawn over. This takes up all that is essential. Filter once more through double-paper filter, and the product is 40 fl. oz. of a fine amber-colored essence almost entirely soluble in water.

I trust the above will be found acceptable as a step towards elucidating that which hitherto seems to have been shrouded in a sort of mystery.—W. H. McGrath in *Chemist and Druggist.*

BARIUM SULPHIDE AS A DEPILATORY.—In connection with an answer given in No. 47, under the heading of "Open Correspondence," respecting depilatories, we print in the following an answer afforded by Clasen, of Hamburg, in the *Monatsh. f. Prakt. Dermat.*, 1889, No. 11, particularly as sulpho-hydrate of sodium, contained in most depilatories, is stated by Clasen to be objectionable.

The sulpho-hydrate of sodium can be very well used for the occasional removal of hair, and to best advantage in a mixture of one part of the salt with eight parts of water. The paste, however, must always be prepared fresh, as its action is otherwise greatly diminished, and under certain circumstances fails altogether or partially. Another question is whether the sulpho-hydrate of sodium is the most serviceable depilatory. There may be no objection to its use in the hands of the physician, but the layman who does not know that this sulphur combination may so cauterize the flesh as to leave great scars, and who in his ignorance, regards the severe burning which sometimes ensues even after one or one and one-half minutes as a proper concomitant of the depilatory action may scarcely be permitted to use the preparation himself.

Since the days of antiquity, throughout the orient, the sulphides and sulpho-hydrates of the alkaline earths have been customarily employed for depilation—above all, sulpho-hydrate of calcium has been used in the form of pastes. However, the difficulty of preparation, as also its odor of sulphuretted hydrogen, and especially its slight permanence proved an obstacle to prolonged and general use. Prompted by the desire not to be hindered by the growth of hair in the dermato-therapeutic treatment of various parts of the body, profusely covered with hair, we have employed as a depilatory the barium sulphide, the value of which was discussed first in France, and have learned to regard it as a serviceable and convenient agent. It may be stored conveniently for any length of time without odor, and in the form of a powder always ready for employment; it is besides certain and mild in action, notably in contrast to the sulpho-hydrate of sodium. The powder is not to be obtained in the market, or, in the apothecary shops, but each apothecary can easily produce it according to the following receipt. A stiff paste is made from heavy-spar (barytes) and coal with the aid of linseed oil, rolled out in cylindrical form, and subjected to the heat of a coal fire. The mass crushed into a powder furnishes a preparation, (colored a dark gray by the particles of coal mixed in), which may be prescribed as follows:

Barium sulphurat................	50 per cent.
Amylum........................	
Zinum oxydat..................	āā 25 per cent.

For purposes of use, this depilatory is stirred up with the requisite quantity of water into a soft paste, which is spread upon the spot to be deprived of hair, in a layer as thick as a straw by means of a flexible spatula—(of iron) best of all, a "painter's palette." After drying, that is, after about 10 minutes, the paste is removed from the skin, which is thenceforward quite smooth. Even with eczematous, or other diseased skin, we will be able to observe scarcely any subjective or objective symptoms of irritation. At first, we had frequent occasion to observe this, while using a 25 and 30 per cent. preparation, instead of a 50 per cent., thus achieving at times an insufficient depilation in the initial applications.

Aside from this depilatory effect of the barium sulphide, the remedy has visibly another property, the specific effect of sulphur, which probably would permit of useful employment in dermato-therapy.—*Pharm. Centralhalle*, Dec. 19, 1889.

Notes and News.

PROF. LLOYD'S LECTURE AT THE NEW YORK COLLEGE—The third of the special series of lectures by eminent pharmacists before the College of Pharmacy of the City of New York, was delivered by Prof. J. U. Lloyd, of Cincinnati, on Thursday evening, February 20th, the subject being "The Infinities of Pharmacy." Prof. Lloyd's conclusion was that: "If a Sovereign Power could bring together the accumulated knowledge of the generations in pharmacy and all connected branches to this day, and with that knowledge endow a single toiler in this field, still he would be but

'An infant crying in the night,
An infant crying for the light,
And with no language but a cry.'"

—*Druggists' Circular.*

ANNUAL MEETING OF THE FACULTY OF THE CHICAGO COLLEGE OF PHARMACY.—It is currently reported that the recent annual meeting of the Chicago College of Pharmacy led to the unexpected defeat of an element which have played a conspicuous part in the management of this institution in the past. It appears that Messrs. Ebert and Hallberg who previously reigned in the councils of the faculty have been deposed from the throne and Thomas Whitfield has been elected President. The defeated element rumor says will contest the election as illegal and we may see the matter in the Courts in the near future. Interesting developments are anticipated.

ANOTHER STATE TAKES STEPS TO EXEMPT PHARMACISTS FROM JURY DUTY.—The Committee on Legislation, of the New York State Pharmaceutical Association, has secured the introduction in both Houses at Albany, of a bill exempting licensed pharmacists from jury duty. The Committee does not anticipate any serious difficulty in its passage. To make assurance doubly sure, the assistance of pharmacists generally is solicited, and to this end they are urged to write their Assemblyman and Senator requesting support for the bill. With interest thus shown through the State, success ought to follow.

Missouri has recently passed a law to the same effect, and all other states should hasten to follow the example. Physicians we understand are exempt, and their indispensable ally, the pharmacist, should with equal justice also be.

A DEFENCE OF BROWN-SEQUARD.—In the columns of the *Philadelphia Time and Register*, Dr. John V. Shoemaker takes up the cause of Dr. Brown-Séquard, and attempts a defense of the physiologist, independently of his method. He points out that in justice to a scientist of the standing of Brown-Séquard, it is imperative on those who pretend to act fairly to ascertain beforehand precisely what the method is, what it is claimed to do, and what in reality are the effects produced. All that is advanced on behalf of the injections is that they will stimulate into activity decadent tissues and organs, and nothing has been put forward which could justify the sneers of the multitude at what they (and they alone) qualified with the title of the "Elixir of Life." Dr. Brown-Séquard simply gave to the world the result of certain experimental observations with the injunction that "this important subject should be further investigated experimentally."

DAMAGES OF $200,000 ASKED—MAKERS OF INFANTS' FOOD SUE THE PUBLISHERS OF A MEDICAL WORK.—According to Philadelphia papers, the Doliber-Goodale Company, of Boston, manufacturers of a food for infants and invalids, have brought suit through their counsel, Page, Allison & Penrose, in the United States Circuit Court against the J. B. Lippincott Company, publishers, of Philadelphia, for $200,000 damages.

The plaintiffs claim that the J. B. Lippincott Company published some time ago a work entitled "Keating's Cyclopedia of Diseases of Children," edited by Dr. Keating. The suit is brought to recover damages for certain alleged misstatements and misquotations of the analysis of a patent food, made in an article in this Cyclopedia. The misstatements, it is claimed, relate to the character of the food, and are especially in reference to the presence of starch and glucose in the food, which are calculated to make it look as if it was an undesirable food for children.

It is also claimed that many physicians have stated that they have given up the use of the food on account of the alleged libelous statements. The plaintiffs claim that the statements are absolutely false in every particular. They hope to show by the amount of advertising which they have had to do every year, which they say amounts to hundreds of thousands of dollars, that they have suffered damages in the sum of $200,000.

The case will probably be tried during the April term of court.

ILLINOIS COLLEGE OF PHARMACY—GRADUATING EXERCISES.—The graduating exercises of the Illinois College of Pharmacy of Chicago, were held in the Grand Opera House on Tuesday, Feb. 25th, at 2:30 P. M. After an introductory by Dr. Oldberg, the Dean of the Faculty, the degrees were conferred on the graduates by the President of the North-Western University.

Dr. Cummings, President of the North-Western University, delivered a brief and forcible address.

The Honor men of the senior class were:

Oliver V. R. Smith (University Medal).
Arthur A. Gaebler.
John L. Zereck.
Frank E. Olive.
Henry P. Baumgartner.

And of the junior class:

Thomas B. McKelligan (Junior Prize).
Frank E. Loucks.
Herman J. G. Koobs.
Paul F. W. Meier.
Daniel Merner.
Gustave O. Pfeifer.
George D. Oglesby.
Fred. M. Walls.

The next full regular course begins March 13th.

PHARMACOPŒIAL CONVENTION NEWS.—Arrangements are in progress in Washington to provide suitable accommodations for the assembling of the delegates and their entertainment. Application for reduced rates of fare by railroads was made to the Trunk Line Commission in New York, and it has been favorably acted upon by the lines in New England and Middle States, with the Chicago end to hear from, which probably will be favorable. At present it is likely that all delegates and their friends attending the Convention from all points east of the Mississippi and Missouri rivers, except the Southern States, will be enabled to secure full fare going and one-third fare returning. Southern delegates and friends will have to content themselves with excursion tickets, as the lines in that section will not concede special rates unless there are 100 or more from that section.

The time for the convening of delegates is but two months hence, and it is believed that there will be nearly 300 delegates present in Washington, May 7, to participate in the deliberations of that body. Never before has there been so much interest in the work to be accomplished, and the preliminary labors on behalf of the Committee of Revision have greatly simplified what will come before the general body for action.

The arrangements for future work will most likely follow the general outline of the last Convention so far as to give the Convention itself the general shaping of the work and to a well-selected committee the details to arrange and publish.

DRUGGISTS' BULLETIN

A MONTHLY EXPONENT OF

PHARMACEUTICAL PROGRESS AND NEWS.

VOL. IV., No. 4. DETROIT, MICH., APRIL, 1890. $1.00 a year. Single copies, 10 cents.

THE DRUGGISTS' BULLETIN.
ISSUED MONTHLY.

EDITOR:
B. W. PALMER, A. M., M. D.

COLLABORATORS:
PRACTICAL PHARMACY.
J. LE ROY WEBBER, PH. G., LEON C. FINK.

CHEMISTRY.
F. A. THOMPSON, PH. C., J. B. NAGELVOORT, PH. G.

BOTANY AND MATERIA MEDICA.
H. H. RUSBY, M. D., G. SUTTIE.

PHARMACEUTICAL APPARATUS AND INVENTIONS.
J. B. RUSSELL, PH. G.

GEO. S. DAVIS, Publisher,
P. O. Box 470, DETROIT, MICH.

Articles designed for insertion in THE BULLETIN, subscriptions, advertisements, and all communications should be addressed to the publisher.

TABLE OF CONTENTS.

Editorial.

PAGE.
"As Others See Us," 101
A New Departure in Trade Methods 104
The Citation of Authorities. 104
Revision of the United States Pharmacopœia 105
Joseph Schrenck 107
Pharmacognosy at the New York College 107
Salicylic Acid and Its Impurities 107
The Obligations of a Pharmacopœia at the Present Time in Establishing Requirements of Purity for Certain Classes of Medicaments 108
Gladstone on Grocers' Licenses to Sell Alcoholic Stimulants 109
The Lesson Taught by "Pudding Opium," 109

Original Articles.

PRACTICAL PHARMACY.

Thoughts on Current Topics 110

CHEMISTRY.

Spermine 110

BOTANY AND MATERIA MEDICA.

Soja 113
Monthly Reviews 113

PHARMACEUTICAL APPARATUS AND INVENTIONS.

Designs for a Metric Bottling Apparatus 117
Nut Cracking 119

Correspondence.

Paris Letter 123
London Letter 124
Pharmaceutical News from Germany 126
New York Letter 128
Chicago Letter 130

PAGE.
Book Reviews 130
Facetiæ 133

Abstracts and Translations.

Standardization 136
Note on Pure Atropine Sulphate 136
Detection of Hydrarg. Cyanidum 136
A Convenient Apparatus for Sterilizing Milk 137

Pharmaceutical Progress.

Successful Antidote in the Collapse of Chloroform Poisoning 138
Crystallized Hyoscine 138
Paste for Store Use 138
Chaulmoogra Plants 138
Purgative Chocolate 138
Artificial "Narceine" is Therapeutically Worthless 138
Percentage of Iodine in Fucus Vesiculosus and Chondrus Crispus 138
Liquid Soaps 138
Deodorization of Iodoform by Tar 139
Contributions to the Knowledge of the Alkaloids of Berberis Aquifolium—Synopsis of the Results of this Investigation 139

Notes and News.

Purchase of the Soda Fountain Industry of the United States by an English Syndicate 139
A Step in Advance 139
Chances of Getting Drugs of Good Quality on Prescription 139
Agents for Purgative Mineral Waters Desired 139
Indicted for Perjury. 139
Latest Form of Administering Menthol 139
Dr. Knorr of Antipyrin Fame Makes a Fortune 139
Announcement of Robert Green & Co. 140
Medical Journals for Pharmacists 140
Points by John Wanamaker About Advertising 140
George D. Rosengarten 140
An Automatic Tablet Machine 140

Editorial.

"AS OTHERS SEE US."

> "O wad some Power the giftie gie' us
> To see oursels as ithers see us."
> —*Burns.*

The obstacles in the way of progress in pharmacy, as in other arts and sciences, are manifold; their name is legion, and it is only by long waiting and earnest working that the clouds of prejudice and misrepresentation break away, and the glories of the sun, that progress lights, shine forth.

Not infrequently, a good cause is won as much by the mistakes of its opponents as by the aid of its adherents, and we have faith to believe that such a cause is the standardization of all preparations of toxic and narcotic drugs that our present knowledge permits of.

Our own views on this subject have been fully set forth, and have survived the test of practical experiment long enough to establish their practicability. While we have maintained them perhaps in season and out, and may have wearied our readers by our persistency, we are gratified by the amount of discussion they have elicited, and by the support they have received.

We think we have seen most of the articles that have appeared on standardization in the medical and pharmaceutical press, and may be permitted the statement without dispute, that the verdict of the press is for standardization by a large majority.

The only decided opposition we have observed, in a careful review of the opinions expressed, has come from a Chicago journal, the *Western Druggist*.

We have in a tolerant way, in previous numbers of the BULLETIN, reasoned with this misguided contemporary, and hoped that it might peaceably recognize the usual amenities of journal criticism, and confine expressions of differences of opinion to argument and facts, and not resort to personal abuse and libelous falsehoods as weapons of editorial criticism.

It would appear, however, that our bellicose contemporary has cut loose the "dogs of war," and is now wallowing in the mud of intemperate expression and inuendo to sustain an untenable position.

Our answer to the criticisms made by this journal has been presented in a previous number of the BULLETIN (March, 1899, page 66, *et seq.*) and we must decline in future, after reading the article in the columns of the *Western Druggist* which we reproduce below, to continue a discussion with a contemporary that so far forgets its dignity and the noble mission of journalism as to descend to the depths of the unparliamentary language printed. Personalities unsubstantiated by argument or fact have no part in scientific discussion, and we must leave our Chicago obstructionist in future to wield his poisoned pen till he finds an antidote in oblivion.

"WHY WE DECLINED."

"The 'Druggists' Bulletin,' of Detroit, the organ of a local medicine factory, insinuates that the opposition of the WESTERN DRUGGIST to the 'standardization' advertising dodge is due to the fact that the firm in question declines to advertise in the WESTERN DRUGGIST. The insult is thoroughly characteristic of the mendacity and malevolence of its authors. The Detroit concern is disposed to assume that it has a chattel mortgage on every journal in which it advertises; its form of advertising contract sanctions this belief. A journal with independence enough to defend the interests of pharmacy and the drug trade against the rapacious greed of this house, and the conspiring propaganda of its own hired newspaper organs, subjects itself to a boycott from the firm and all its relations. If the management declined to advertise in these columns, there is evidence to believe it was primarily because the firm knew from past experience that our editorial columns could not thus be bought and controlled, and because we refused to accept the terms proposed.

This standardization dodge is part and parcel of the scheme which gave birth to the anti-copyright and 'newer remedy' devices which have been 'worked to death,' and must now be replaced with something new and 'catchy;' something that will catch the host of callow doctors who are ever ready to snatch at anything that impeaches the intelligence or fidelity of the druggist, and which may also entrap those sweet 'scientific' druggists who worship the very sound of a 'standard,' be it the ring of pure coin or the thud of pewter. The fact that the Detroit concern favors standardization will itself prejudice, if not condemn, the idea in the Pharmacopœial Convention.

In passing, it may be asked why the advertising matter of this house should be carried by the Government at newspaper rates, while competing houses pay the honest rate for a similar service. A Government investigation is clearly needed."

⁂

We turn with kindlier sentiments however, to those who have discussed this subject of standardization disinterestedly and in a spirit of impartiality, and wish to submit to our readers some opinions from other sources, containing more reason and less evidence of guerrilla warfare, that they may see us and standardization "as others see us," and in a less lurid atmosphere than that we are consigned to by the solitary grumbler of Chicago.

⁂

There can be little doubt that among the questions to be brought before the revisors of the Pharmacopœia, that of standardization will be prominent.

The fact is, as any one having the slightest acquaintance with our Pharmacopœia can scarcely fail of knowing, that several standardized preparations are already official, and the real question is, shall the application of the process be extended or shall it be abandoned as fallacious?

But because no one can prove to the satisfaction of all objectors that a given morphiometric process is perfect in its results, shall we give up all attempts at assaying opium and use it as we find it, with a strength ranging from next to nothing up to 16 or 20 per cent.? We doubt if such a proposition would receive the support of any but the most prejudiced anti-assayist.

Now, if the first effort towards introducing standardized drugs has been of any service at all, why should not the movement be extended, at least in the direction of research as to methods by which satisfactory assay could be accomplished? The question turns entirely upon the usefulness of standardization. If medical men find advantage in uniformity and demand it, the pharmacist must do his best to secure it.—*Druggists' Circular*, March, 1890.

⁂

On standardization, the *Pharmaceutical Record*, March 17th, 1890, says:

We cannot fail to observe the growing interest manifested in this subject. While the pending discussion has ended in general toward a better understanding of the facts and principles involved in the proposed extension of standardization in the Pharmacopœia, yet it seems to us that there is a general misapprehension of some of the facts of the case.

Many pharmacists look upon the movement as one tending to prevent, or to largely increase, the difficulties of the manufacturing of his preparations by the retailer. But no greater mistake could be made. The editor of the *Record* has been accustomed to exhibit to his classes neat packages of powdered drugs whose specified alkaloidal strength is guaranteed by perfectly reputable houses. While such strength might be above or below a given standard, yet the manufacturer of a preparation of any reasonable required strength by the use of a larger or smaller amount thereof, requires only ordinary skill and care. The use of such definite material, even without the authority of the Pharmacopœia, could tend only toward securing the reputation of the pharmacist employing it, and its uniform use under such authority would certainly appear to be an advance over present irregular methods.

Another element of doubt in the minds of many conservative persons has been, the fear that they might be playing into the hands of large manufacturing houses, a result which is certainly to be guarded against. But if one considers the question from an unprejudiced standpoint, it is difficult to understand how such can be the case. If, as it appears, it is equally easy for pharmacists to make their own standardized as well as their unstandardized preparations, it would simply result in dividing up this business among thousands of makers, whereas now it is confined to a few, or perhaps to a single one. While it is difficult to understand that a house would advocate the adoption of a method by which their immediate profits would be decreased, yet it is impossible in the present case to see any other result, except perhaps in obtaining credit for good work, and this certainly no one ought to desire to withhold.

Some of the personal allusions that have appeared in our exchanges have been most unfortunate in directing suspicion where we happen to know that none should exist. It is easy for a hasty writer to injure a fair reputation, but it is very difficult to make amends after the evil is done.

⁂

In the same journal, Professor L. E. Sayre, of the Department of Pharmacy, University of Kansas, says:

> It seems to me that the question at issue is not whether the adoption of standardization of remedial agents will be a pecuniary benefit to the manufacturer or the retailer—whether it will make the "rich richer and the poor poorer," as some put it—but whether the standardization of these agents is very desirable from the standpoint of the physician and his suffering patient; whether we as pharmacists have come to a time when this is practicable, and whether pharmacy has reached a point where the parties directly interested can be assured that standardization is not merely a theory, but really practicable in the hands of the pharmacists of to day.
>
> It seems to me that the "Digest of Criticisms" on the United States Pharmacopœia, just published, puts this matter of standardization quite fairly—namely: "All crude drugs and Galenical preparations ought to be standardized when possible. As it is, we are very particular about fractions of per cent. of impurities in chemicals, while crude drugs and Galenical preparations may vary 50 per cent., if not much more, for all that we are aware of. It is true that assay is not always an accurate measure of therapeutic value, but it is still a valuable approximation."

⁂

Frank Edel in *The Druggist* states:

> I believe the welfare of the drug business demands some standard. Such drugs as belladonna, ipecac, coca, aconite, nux vomica, conium, jalap, mandrake, and some others, should be required to contain a certain proportion of active strength in order to be up to standard. Let the next Pharmacopœia require that official ipecac shall contain at least as much emetine as the assay of many samples, gathered from different sources, shall be the average for good prime ipecac. Let the same be required of other drugs. In mandrake and jalap the amount of resin should be required.

⁂

Ferdinand Lascar, in an article on "Uniformity in Narcotic Medicines," says:

> That medicines prescribed by the physician and dispensed by the pharmacist should be of a uniform and constant strength, is a proposition which should be of all-absorbing interest to both professions. It is, nevertheless, a fact that at the present moment we are far from having arrived at the point when this proposition has become an accomplished fact. What is still more to be regretted is that our Pharmacopœia, with few exceptions, fails to establish a uniform standard of strength for drugs and their preparations. In no case is this so apparent as in the important class of narcotics and heroic medicines which, from immemorial times, have formed the most important chapter of Materia Medica.
>
> The phenomenal progress of the industry of wholesale manufacture, has frequently drawn attention to the importance of having a uniform and official schedule devised by which the profession should be guided. The lack of such an official standard has ever been instrumental in bringing many important drugs into disrepute with the medical profession, and has greatly aided the practice of employing the alkaloids and other active principles of drugs. In revising the Pharmacopœia, the Committee who had this important work in charge seems to have felt this necessity, and a slight improvement in this direction was arrived at; but it is much to be regretted that this improvement was confined to opium, its tincture, and the tincture of nux vomica. There are other drugs of equal importance where it is urgently required to have an official standard of strength. The objection raised by many that the manufacturing pharmacist would offer generally superior grades of narcotic fluid extracts and normal tinctures, can barely be seriously meant; a uniformity of strength of such preparations is equally desired by them as by the dispensing pharmacist, and would help to bring light into a chaos of uncertainty.

⁂

The *National Druggist* says:

> If crude drugs vary from 2 to 3 per cent. above or below their average quality, it necessarily follows that their respective preparations will be characterized by a similar lack of uniformity in strength, unless their active constituents are estimated by appropriate methods, and the finished product adjusted to a uniform standard.
>
> The possibilities which are placed in the hands of the pharmacist by the advance in chemical and pharmaceutical knowledge, render a solution of this important question easy of accomplishment.
>
> As a result of such intelligent and properly directed activity on the part of physicians, pharmacists, chemists, and physiologists, it is possible to make a decided advance in the way of regulating the potency of remedial agents, so that uniformity of therapeutic results must ensue. That this has already been accomplished, is assured, and there are now on the market liquid representatives of the toxic vegetable drugs, which are so thoroughly standardized as to represent the active principles of the latter with the greatest exactness. The uniformity attained in these preparations, in their adjustment to definite standards of strength, has demonstrated the easy feasibility of the principle of standardization, and constitutes a strong plea for, and argument in favor of, the necessity of giving "standardized preparations" official recognition in the forthcoming Pharmacopœia of 1890. Should the Pharmacopœial Commission decide to admit them, it is to be hoped that body will give the line of standardized preparations a thoroughly distinctive appellation—one which will mark the difference between them and fluid extracts, and be descriptive of the peculiar characteristic of the new line, viz., absolute uniformity of potency. As the term "normal liquids" has already been made familiar in this connection, it might be well that the Commission consider the propriety of appropriating the same and applying it to the line of "standardized" preparations.

Among other journals that have approved standardization by publishing articles in favor of it, may be mentioned such influential and representative ones as the following:

Journal of the American Medical Association, New York Medical Record, New York Medical Journal, Philadelphia Medical News, Philadelphia Times and Register, Philadelphia College and Clinical Record, Cincinnati Lancet and Clinic, St. Louis Medical Review, St. Louis Medical and Surgical Journal, Louisville American Practitioner and News, Memphis Medical Journal, Daniel's Texas Medical Journal, Atlanta Southern Medical Record, St. Joseph (Missouri) *Medical Herald, Nashville* (Tennessee) *Southern Practitioner, Virginia Medical Monthly, Kansas Medical Record, Southern California Practitioner, Peoria* (Illinois) *Medical Monthly, Toledo* (Ohio) *Medical Reporter, San Francisco Medical and Surgical Journal, Denver Medical Times,* and indeed many others too numerous for mention here.

A NEW DEPARTURE IN TRADE METHODS.

While competition is justly called the life of trade, its fervor sometimes leads to the adoption of methods which all impartial fair-minded business men must condemn.

It would seem that if an individual element of any trade, art, or profession, strives to elevate itself above its competitors by original discoveries or valuable investigations leading to important practical results to art or trade, that all who have failed to attain so great a degree of success in the same direction unite to revile the efforts made, and detract from the value of the progress achieved.

We recall in this connection the remarks of our onetime Professor of Chemistry, R. Ogden Doremus, who in his lectures would relate the trials, and in some cases persecutions, to which all discoverers of great chemical principles have been subjected before their claims were established, and express the opinion that universal experience proves that no one ever achieved success without exciting the envy and opposition of all who failed.

To apply our moralizing, we would cite a recent case in point,—that of the Carl L. Jensen Co., of New York, who, as manufacturers of Pepsin, have widely distributed to the drug trade the following card:

> NEW YORK, March, 1890.
>
> DEAR SIR—You are hereby notified that proceedings are pending against John Clay, manager for Messrs. Parke, Davis & Co., for infringement of U. S. patent issued to Carl L. Jensen, for the process and product known as Jensen's Crystal Pepsin, now owned by this Company.
>
> All persons selling their Pepsinum Purum in Lamellis, et Pulvis, in any form, are liable to be held for similar infringement, and you are particularly notified, if you deal in the same, to desist at once.
>
> Our prices are:
>
> Crystal Pepsin, $1.40 per oz.
> Pepsin Tablets, $7.50 large per doz.
> " " $3.75 small.
> Usual discount to wholesale trade.
>
> CARL L. JENSEN CO.,
> *100 Maiden Lane,*
> *New York.*

In response to this, Messrs. Parke, Davis & Co. make the following statement:

> We desire to make clear the facts in this case, that those who prescribe our pepsin may not be misled by the uncandid statements of the Carl L. Jensen Co.
>
> More than a year ago, the Carl L. Jensen Co. brought suit against Mr. John Clay, manager of our New York branch, for alleged infringement of the Jensen patent for pepsin, and after long delay, barren of testimony supporting their claims, we supposed they had abandoned the suit.
>
> It seems impossible to us, moreover, that our pepsin, being nearly three times the strength of the Jensen pepsin (as demonstrated by R. H. Chittenden, Ph. G., Professor of Physiological Chemistry at Yale University), could be within the Jensen patent. We have submitted our pepsin to one of the highest authorities on digestive ferments in this country, and are advised that our pepsin does not come within the Jensen patent.
>
> We shall now push the suit vigorously, and expect within a few months to be able to announce that the courts have decided this suit in our favor.
>
> In the meantime we wish to assure all interested in prescribing, dispensing or purchasing our pepsin products, that they need have no fear of continuing the use of them, as we shall defend any and all who are sued under this patent for selling any of our pepsin products, and they need not anticipate any expense or damage arising from purchasing or selling them."

From our knowledge of the facts of the case, we can not but think that the Jensen firm are premature in making an announcement based on the assumption of facts absolutely unproven, and while the suit presenting their claims is still pending. It looks to us as if they were hopeless of establishing their claim, and that the whole agitation had been brought about to obtain wide advertising of their pepsin product in connection with one that has been proven, by the highest authorities on digestive ferments, to be nearly three times greater in digestive activity.

THE CITATION OF AUTHORITIES.

Under the title "Herbaria," Mr. G. C. Druce read a paper before the London Chemists' Assistants' Association, which is printed in the *Druggists' Circular* for March, p. 53.

Our interest is particularly excited in the author's remarks on the subject of nomenclature. We note certain inconsistencies in language, and as it appears to us, errors in logic. In one paragraph, Mr. Druce distinctly states that the generic and specific names constitute two distinct names, and not a single one. His language is as follows: "The plan now adopted is, first, that two names, the generic and specific, are alone to be used." Further on he says: "When it has been found necessary to change the genus of a plant from the one in which Linnæus or any other author first described it, we have to place the author's name after it who first referred it to its proper genus. This is the great law of priority." But inasmuch as he has stated that this form is actually the using of two distinct names, it is clear that his conclusion is inaccurate, namely, that the authorship is correctly indicated by the use of the name of the individual who has originated only one of them. He declares by the use of such a name, as in the form "*Deschampsia cæspitosa*, Beauvois," which he cites in illustration, not only that Beauvois is the author of the assertion that this plant agrees with the characters of the genus *Deschampsia*, but that Beauvois is the original author of the claim that this plant is specifically distinct from its nearest relative, a declaration which is absolutely without foundation, inasmuch as it was the fine power of discrimination of some other man which established the latter important fact. While we might, therefore, permit Mr. Druce to claim expediency for the method which he employs, we can never admit that he is not guilty, in using this form of citation, of making a positive declaration of something which is not true. If it shall be claimed by a majority of botanists that expediency warrants this degree of inaccuracy of statement, well and good; but let it never be conceded that the inaccuracy does not exist. We cannot, moreover, feel that the author has been altogether frank when he says: "Some Continental and many American authorities, it is true, in some instances commonly write *Deschampsia cæspitosa* (L.), Beauv." As a matter of fact, variations, both in Continental and British opinion, are the exception. If the question were confined to phænogamic botany alone, then his statement would be more nearly correct; but when we consider that throughout biology, with the sole exception of this comparatively small department, the opposite form is adopted, we are justified in saying that the adoption of the form assumed by Mr. Druce is the exception. Not only so, but in phænogamic botany the general custom upon the Continent is not in accordance with his own, and when we come to consider even British custom, we are faced by the fact that the only notable agreement with him is by the authorities at Kew, and opinion there is strongly divided.

REVISION OF THE UNITED STATES PHARMACOPŒIA.

OFFICIAL ANNOUNCEMENT.

BOSTON, MASS., March 15th, 1890.

The Convention for the revision of the United States Pharmacopœia will be held in the city of Washington, May 7th, at noon. As it is necessary that some preliminary arrangements should be prepared in advance, I have taken upon myself the responsibility of appointing the following delegates to act as a Committee of Arrangements:

Dr. Samuel C. Busey, Dr. C. H. A. Kleinschmidt, Dr. Robert T. Edes, of Washington; Prof. P. W. Bedford, of New York; and a Committee appointed by the National College of Pharmacy, of the following members: W. S. Thompson, J. A. Milburn, and S. E. Waggaman, M. D.

As soon as arrangements are completed, a circular will be mailed to each organization whose credentials are received by me before April 10th, and to any delegate who will foward his address on a stamped envelope inclosed to me.

As President of the Convention of 1880, for the revision of the United States Pharmacopœia, I would report that, up to the first day of March, I have received certificates of credentials from the following list of delegates. If there are any errors in the same, either in initials or names, I would respectfully request that corrections be sent to me, P. O. Box 3281, Boston, Mass. As there are a large number of delegates appointed whose credentials have not yet reached me, a supplementary list will be published later.

ROBERT AMORY,
President Convention, 1880.

STATE MEDICAL SCHOOLS AND COLLEGES.

Albany Medical College.—Maurice Perkins, M. D.; J. M. Bigelow, M. D; W. P. Mason, M. D. *Alternates.*—H. E. Webster, M D.; F. G. Curtis, M. D.; W. G. Tucker, M. D.

Baltimore Medical College.—J. W. Foster, M. D.; R. H. Ellis, M. D.; J. D. Blake, M. D.

Central Medical College.—S. E. Earp, M. D.; J. B. Long, M. D.; G. W. Vernon, M. D. *Alternates.*—J. O. Stillson, M. D.; M. V. Morgan, M. D.; J. A. Sutcliffe, M. D.

Columbia Medical College.—(*College of Physicians and Surgeons.*)—G. L. Peabody, M. D.

Dartmouth Medical College.—H. M, Field, M.D.

Georgetown Medical School.—C. H. A. Kleinschmidt, M. D.; G. L. Magruder, M. D.; J. I. Stafford, M. D. *Alternates.*—G. W. H Lovejoy, M. D.; Frank Baker, M. D.; J. B. Hamilton M. D.

Harvard Medical College.—Charles Harrington, M. D.; Francis H. Williams, M. D.

Howard Medical College.—W. H. Seaman, M. D.; J. E. Brackett, M. D.; C. R. Defour, M. D. *Alternates.*—T. B. Hood, M. D.; Robert Reyburn, M. D.; C. B. Purvis, M. D.

Missouri Medical College.—Charles O. Curtman, M. D.

Michigan Medical College.—H. F. Lyster, M. D.; P. C. Freer, M. D.; H. M. Hurd, M. D. *Alternates.*—R. H. Stevens, M. D.; B. F. Dawson, M. D.; J. H. Dawson, M. D.

Miami Medical College.—Daniel Milliken, M. D.

National Medical College—D. W. Prentiss, M.D; W. W. Johnson, M.D.; E. T. Fristoe, M.D.

New York Medical College (*University Medical College*)—W. M. Thompson, M.D.

Pennsylvania Medical College—Wm. Pepper, M.D.; Theodore G. Wormley, M.D.; John Marshall, M.D. *Alternates*—G. A. Pierson, M.D.; John Guiteras, M.D.; J. Tyson, M.D.

Philadelphia Women's Medical College—Clara Marshall, M.D.; Henry Leffman, M. D.; James B. Walker, M. D. *Alternates*—Anna M. Fullerton, M.D.; Mary E. Allen, M.D.; Elizabeth L. Peck, M.D.

Syracuse Medical College—John L. Heffron, M. D. *Alternate*—W. M. Smith, M.D.

Virginia Medical College—J. W. Mallet, M. D. *Alternate*—W. B. Towles, M.D.

STATE MEDICAL SOCIETIES, ETC.

Connecticut Medical Society—C. A. Lindsley, M. D.; F. J. Young, M. D.; O. J. D. Hughes, M. D. *Alternates*—J. H. Granniss, M. D.; R. S. Goodwin, M. D.; G. W. Avery, M.D.

Columbia Medical Society—Samuel C. Busey, M.D.; Robert T. Edes, M.D.; Henry D. Fry, M.D. *Alternates*—G. W. Cook, M.D.; C. W. Franzoni, M.D.; H. L. E. Johnson, M.D.

Indiana Medical Society—George W. Sloan, M.D.

Kentucky Medical Society—W. Bailey, M.D.; J. A. Larrabee, M. D.; H. Orendorff, M. D. *Alternates*—J. N. McCormack, M. D.; J. H. Letcher, M.D.; David Barron, M.D.

Massachusetts Medical Society.—B. F. Davenport, M. D.; F. H. Williams, M. D; Charles Harrington, M. D. *Alternates.*—Robert Amory, M. D.; Robert T. Edes, M. D.

Maryland Medical Society.—E. F. Cordell, M. D.; J. E. Atkinson, M. D.; T. B. Bruce, M. D.

New York Medical Academy.—F. A. Castle, M. D.; A. H. Smith, M. D.; G. G. Needham, M. D. *Alternate.*—W. T. Alexander, M. D.

North Carolina Medical Society.—F. T. Wood, M. D.; R. S. Young, M. D.; J. M. Baker, M. D.

Philadelphia College Physicians.—Alfred Stillé, M. D.; J. M. Hays, M. D.; J. C. Wilson, M. D. *Alternates.*—T. J. Mays, M. D.; F. P. Henry, M. D.; J. W. Holland, M. D.

Philadelphia County Medical Society.—H. C. Wood, M. D.; L Wolff, M. D.; F. Woodbury, M D.

MEDICAL DEPARTMENT U. S. SERVICE.

Army.—Surgeon W. T. Mew, M. D.

Marine Hospital Service.—Surgeons C. S. D. Fessenden, M. D; Walter Wyman, M. D; John Godfrey, M. D.

Navy.—Surgeon J. M. Flint, M. D.

AMERICAN PHARMACEUTICAL ASSOCIATION.

Delegates—E. R. Squibb, M. D., Brooklyn, N. Y.; A.E. Ebert, Chicago, Ill.; C. Mohr, Mobile, Ala. *Alternates.*—A. B. Taylor, Philadelphia; C. S. N. Hallberg, Chicago, Ill.; M. W. Alexander, St. Louis, Mo.

COLLEGES AND SCHOOLS OF PHARMACY.

Albany (N. Y.) College.—A. B. Huested, G. Michaelis. *Alternates.*—L. Sautter, C. H. Gaus.

Buffalo (N. Y.) College.—F. L. Vanderburgh, E. H. Long, W. G. Gregory. *Alternates.*—W. H. Peabody, W. W. Henderson, S. H. Dorr.

California.—Elmer Painter, New York (deceased); W. M. Searby, San Francisco; W. T. Wenzell, San Francisco. *Alternates.*—S. H. Melvin, San Francisco; E. W. Runyon, San Francisco; R. G. Eccles, Brooklyn, N. Y.

Cincinnati College.—C. T. P. Fennel, Cincinnati; George Merrell, Cincinnati; George Eger, Cincinnati.

Chicago College.—C. S. N. Hallberg, A. Seberer, L. C. Hogan, *Alternates.*—A. E. Ebert, E. B. Stuart, H. Biroth.

Cornell School of Pharmacy, Ithaca, N. Y.—G. C. Caldwell, S. B. Newbury, W. A. Viall. *Alternates.*—A. N. Prentice, W. R. Dudley, W. R. Orendorff.

Illinois College, Chicago.—O. Oldberg, W. E. Quine, W. Bodemann. *Alternates.*—H. S. Maynard, T. H. Patterson, D. R. Dyche.

Louisville (Ky.) College.—C. L. Diehl, B. Buckle, E. Goebel. *Alternates.*—A. J. Schoettlin, E. Spiedel, O. C. Dilley.

Louisville (Ky.) College for Women.—J. P. Barnum, W. Rogers, T. H. Stuckey. *Alternates.*—D. N. Marble, E. A. Grant.

Maryland College, Baltimore, Md.—L. Dohme, W. S. Thompson, N. H. Jennings. *Alternates.*—C. Caspari, Jr., D. M. R. Culbreth, C. Schmidt.

Massachusetts College, Boston, Mass.—S. A. D. Sheppard, E. L. Patch, C. C. Williams.

National College, Washington, D. C.—W. S. Thompson, J. R. Walton, H. E. Kalusowski. *Alternates.*—W. G. Duckett, G. G. C. Simms, R. L. Eliot.

New York College.—Charles Rice, P. W. Bedford, H. H. Rusby.

Pennsylvania College, Philadelphia, Pa.—M. Roche, H. C. Archibald.

Philadelphia College, Philadelphia, Pa.—J. M. Maisch, J. P. Remington, A. B. Taylor.

Pittsburgh College, Pittsburgh, Pa.—A. Koenig, J. A. Koch, J. B Cherry. *Alternates.*—F. H. Eggers, L. Emanuel, S. H. Stevens.

St. Louis College, St. Louis, Mo.—J. M. Good, O. A. Wall, F. W. Sennewald. *Alternates.*—G. H. C. Klie, C. Gietner, H. M. Whelpley.

University of Michigan, School of Pharmacy, Ann Arbor, Mich.—A. B. Prescott, O. C. Johnson, A. B. Stevens. *Alternates.*—F. A. Thompson, T. C. Schlotterbeck, W. T. Jackman.

University of Wisconsin, School of Pharmacy, Madison, Wis.—F. B. Power.

STATE PHARMACEUTICAL ASSOCIATIONS.

Arkansas.—W. W. Kerr, Batesville.

Kansas.—L. E. Sayre, Lawrence; George Leis, Lawrence; R. J. Brown, Leavenworth. *Alternates.*—J. T. Moore, Lawrence; C. L. Becker, W. C. Johnston.

Kentucky—C. L. Diehl, Louisville; W. L. Johnson, Henderson; G. A. Zwick, Covington.

Louisiana.—C. L. Keppler, New Orleans; R. N. Girling, New Orleans; H. L. Lagarde, Jeannette.

Massachusetts.—G. F. H. Markoe, Boston; C. P. Pengra, Boston; J. H. Manning, Pittsfield.

Missouri.—G. H. Charles Klie, St. Louis; H. M. Whelpley, St. Louis; C. E. Corcoran, Kansas City. *Alternates.*—F. E. Dimmitt, Kansas City; W. E. Bard, Sedalia; C. C. Davidson, El Dorado Springs.

New Hampshire.—E. H. Currier, Manchester; C. B. Spofford, Claremont; A. S. Wetherell, Exeter.

New York.—R. G. Eccles, Brooklyn; T. J. Macmahan, New York City; C. W. Holmes, Elmira. *Alternates.*—C. S. Ingraham, Elmira; W. H. Rogers, Middletown; C. Z. Otis, Binghamton.

Texas.—James Kennedy, San Antonio.

Wisconsin.—C. H. Bernhard, Madison; J. C. Hueber, Fond du Lac; A. Conrath, Milwaukee. *Alternates.*—A. H. Hollister, Madison; J. A. Dadd, Milwaukee; H. T. Eberle, Watertown.

The railroads in the territories of the Trunk Line Commission, Central Traffic Association, and the Southern Passenger Association, which practically includes all the lines between New York State on the east, Chicago, St. Louis and the Mississippi River on the west, and all the Southern States, will make the convention rate of a full fare going, and one third fare returning (on the usual conditions) to all delegates and their friends, to Washington and return. In the New England States, and Michigan, as also north of Chicago and west of the Mississippi River, no concession can be obtained. Circulars giving fuller particulars will be issued later.

JOSEPH SCHRENCK.

The pharmaceutical profession, as well as botanical science, has suffered a serious loss in the death of Joseph Schrenck, Professor of Pharmacognosy in the College of Pharmacy of the City of New York. This estimable gentleman and accomplished histologist, was born in Hungary, but early removed to this country, where he had been variously associated with educational institutions for many years. At the time of his death he occupied, in addition to the chair of Pharmacognosy at the New York College, the position of Principal of the Hoboken Academy of Hoboken, New Jersey. He was noted for his great and almost excessive modesty as well as for scholarly attainments. With the true scientific spirit, he pursued his researches out of pure love for the work, and devoted a large part of his energies to services which brought him no pecuniary reward. His last important paper, was read before the Torrey Botanical Club, and was on the subject of "The Floating Tissue of *Nesæa verticillata.*" Presented in the space of a few months, this paper, nevertheless, represented the persistent and indefatigable labors of an entire vacation season. Prof. Schrenck was a frequent contributor of pharmacognostical notes, especially through the *American Journal of Pharmacy*. He had just begun presenting contributions to the DRUGGISTS' BULLETIN, and the editors of this journal indulged the vain hope that its columns might be enriched with the results of his studies for many years to come.

In his domestic relations, Prof. Schrenck was a model. Seldom away from home, he was devoted to the welfare of his large family, and his days passed quietly and uneventfully. About a year since, scarlet fever invaded his household, and he lost two of his children, another one escaping by the merest thread. Conversing with the writer, he said, in reply to a sympathizing remark to the effect that it was not as though he had no children remaining: "Ah, my dear sir, you know nothing about it. It is as though the whole house was empty. I cannot think of those who are left, but only of the ones who are gone." From the severe shock attendant upon this loss, Prof. Schrenck never really recovered. He did not regain his spirit, and his general health suffered from his unhappy mental state. Still, his devotion to his pupils and students never flagged; and when, on recovering from the first severe symptoms of his attack of the *grippe* he was begged by his family and physicians to remain a few days longer absent from his work at the College, he replied, "No, my boys need all the instruction that they can get, and I think I can venture out." He did venture, and attended faithfully to his class, but, whether as the result of this exposure or not, he immediately suffered a relapse from which he never recovered. A pulmonary catarrh, marked by excessive weakness of the ciliary membrane supervened, and exhausted by this and tortured by severe nervous symptoms, he grew weaker and weaker, and at length died peacefully on Monday the 10th of March. The loss has cast a deep gloom not only over his immediate circle of neighbors and social acquaintances, but over the College—its members, students and alumni—as well as his large circle of scientific friends and admirers both in this country and in Europe.

PHARMACOGNOSY AT THE NEW YORK COLLEGE.

The vacancy in the Chair of Pharmacognosy at the New York College of Pharmacy, caused by the death of Prof. Schrenck, has been filled by the appointment of Prof. Rusby, the Chairs of Botany and Materia Medica, and Pharmacognosy, being thus united in a single department. Instruction in these departments will be more than doubled, the hours for laboratory instruction in Pharmacognosy being extended to 25 hours for each member of the Junior and Senior classes, greatly increased laboratory facilities being provided. Mr. Henry Kraemer, Assistant of Prof. Sadtler in the Chemical Department of the University of Pennsylvania, has been elected Instructor and Laboratory Assistant. Mr. Kraemer was educated at Girard College, where he graduated with high honors, and afterward at the Philadelphia College of Pharmacy, where he took both medals and received special mention for his proficiency in Microscopy. He has been a special student at the University of Pennsylvania, is a member of the Philadelphia Academy of Sciences, and his appointment is generally looked upon as one of great advantage. The course of practical study in Vegetable Histology and Pharmacognosy now provided by this Institution, is unequalled by any other American College of Pharmacy.

SALICYLIC ACID AND ITS IMPURITIES.

A recent paper by Professor Charteris and Dr. Maclennan, published in the *British Medical Journal,* and that on "Rheumatism; its Treatment, Past and Present," read by Professor Charteris before the Royal Medical and Chirurgical Society, are deserving of careful consideration by pharmacists. The chief interest in these papers centres in certain experiments undertaken by Dr. Charteris regarding the impurities of salicylic acid and its preparations. In these days of the extensive use of drugs, especially of the more modern substances belonging to the class of organic chemical substances, it is first of all essential to get the drugs pure, not only for the good of the patient who takes them, but also for the accurate study of their therapeutical effects. These organic substances are made from others of a like nature, and are in many cases readily altered by chemical and mechanical manipulation; the alteration, moreover, which may take place in many cases, completely changes the character of the drug. Dr. Charteris has, therefore, done good service in directing attention to the salicylates, which are so extensively, and it is to be feared so often indiscriminately, employed in the treatment of disease.

The bad effects which salicylates produce have been often described. Summed up, they are: Headache, singing in the ears, and delirium. For some time these effects were ascribed—with but little show of reason, it must be confessed—to the admixture of carbolic acid, from which salicylic is made. But it is generally admitted that ordinary salicylic acid does not contain carbolic acid, so that this explanation is not now admissible.

The Pharmacopœia allows the preparation of salicylic acid from two sources: "By the combination of the elements of carbolic acid with those of carbonic acid gas, and subsequent purification, or from natural salicylates, such as the oils of wintergreen (*Gaultheria procumbens*) and sweet birch (*Betula lenta*)." As a matter of fact, most of the salicylic acid and salicylates present in the market, are obtained artificially from carbolic acid; and it is the question of the purity of this artificial salicylic acid that Dr. Charteris investigated. The method which he employed was to compare the effects of a certain dose of the artificial and natural salicylates on rabbits weighing 2½ lbs. It was found that salicin, 30 grains, natural salicylic acid, 10 grains, and natural salicylate of sodium, 32 grains, had no deleterious effects on these animals; whereas artificial salicylic acid, 10 grains, and artificial salicylate of sodium, 18 grains, produced death. There was, presumably, some poisonous substance present in the artificial salicylates which was absent in the natural form of the salts. The deleterious impurity in the artificial salicylates, Dr. Charteris found to have the appearance of coarse flour, and to be very soluble; and although it was not identified chemically, it was considered to be probably a derivative of creasotic acid. Its physiological activity was shown to be great; for 1 grain killed a rabbit weighing 2 lbs., and we must therefore conclude from the experiment above quoted of the effect of 18 grains of artificial salicylate of sodium, that this quantity of the drug (which is an ordinary dose) contains a grain at least of the impurity.

The separation of this poisonous impurity from the drug is an important point. The greater part of the salicylic acid in common use is an artificial product; it is more convenient to prepare it from carbolic acid than from the natural oils already mentioned. Dr. Charteris has discovered a method of purification which is deserving of the attention of pharmacists. The acid is combined with calcium, and the calcium salicylate decomposed by hydrochloric acid, by which calcic chloride is formed and salicylic acid set free. This is then purified by crystallization, four or five times repeated, from hot water. The final product is pure salicylic acid, which has the appearance and physiological action of th enatural variety.

The result of Dr. Charteris's researches ought to be, the presence of a pure salicylic acid in the market. It may, indeed, be said, and was said in the discussion which followed the paper, that deleterious effects from the artificial acid (or its sodium salt) in ordinary use, are not commonly observed. But this is no answer to the fact that a poisonous impurity is present in the drug which ought not to be there, and common sense dictates that the sooner it is got rid of the better.

THE OBLIGATIONS OF A PHARMACOPŒIA OF THE PRESENT TIME IN ESTABLISHING REQUIREMENTS OF PURITY FOR CERTAIN CLASSES OF MEDICAMENTS.

Prof. P. C. Plugge, in the *Nederlandsch Tydsch. v. Geneesk.*, 1889, calls attention to important defects in alkaloidal preparations of certain drugs, and teaches the danger of using alkaloidal preparations varying in strength and purity, in cases in which the fluid extract may be employed with greater safety and convenience.

While a modern Pharmacopœia requires the verification of the identity and purity of its preparations, we should like to see that mention is made of physiological and toxic properties, or reactions of certain classes of medicaments. There are many preparations where physiological or toxical assays alone possess value.

A few examples may serve to illustrate what is meant:

Aconitia Nitras is often prescribed. Its activity is variable, and it is imposible to determine chemically the extent of impurity and of the presence of decomposition products. The only reliable method by which to judge intelligently, is to determine by experiment its toxicological effect on animals. (Compare F. A. Thompson in BULLETIN for 1889, on Aconitine, page 108.)

Another example is furnished by *Curare*, which is sometimes prescribed as an antidote to strychnine. The purity of curare cannot be recognized by any chemical or physical property. One kind of curare, injected in frogs subcutaneously, caused a total paralysis in doses of $\frac{1}{10}$ milligramme, but a different specimen required a ten times larger dose to obtain the same action.

Hydrochlorate of Pilocarpine often contains jaborine. Pilocarpine produces myosis, lessens the heart-beat, and increases the secretion of bowels, of saliva, of tears, and of perspiration. Jaborine resembles atropine, produces mydriasis, increases the heart-beat, and prevents mucous secretions in general. As a consequence of these antagonistic properties of pilocarpine and jaborine, we find some pilocarpine hydrochlorate in the market that is entirely inert.

It is very difficult to detect by a chemical process, small quantities of jaborine. This is possible, however, by physiological experiment. The heart of a frog, paralyzed with muscarine, will beat again if injected with a few drops of a pilocarpine salt that contains jaborine.

Physostigmine and Calabarine, are both present in the Calabar bean, to which Merck adds eseridin; melting point 132° C.—happily of no therapeutic value; their properties differ widely. Calabarine does not contract the pupil. Physostigmine besides its different action on the pupil, is prescribed by physicians in cases in which the action of calabarine, similar to strychnine, is very undesirable. (Tetanus neonatorum, chorea, trismus).

In the special case of solid extract Calabaris, the pharmaceutical chemist is able to assist the physician. Physostigmine is easily soluble in ether; calabarine not. Therefore, in an etherial extract Calabaris endorsed by the authority of the Pharmacopœia, lies the proper remedy.

GLADSTONE ON GROCERS' LICENSES TO SELL ALCOHOLIC STIMULANTS.

The fact that notion dealers, fancy goods houses, and grocers, in this country sell medicines to the detriment of the legitimate trade of the druggist, has before been adverted to in these columns. That similar evils are not confined to this country, may be gathered from an editorial in the London *Lancet*, March 1st, 1890.

⁂

It would appear from the facts presented in the article quoted, that to grocers in England are issued licenses for the sale of alcoholic stimulants, which are used as a cloak for dispensing liquors indiscriminately. So eminent a reformer as Mr. Gladstone has become interested in this question, and the "Grand Old Man" is lending the influence of his pen to effect a reform of the present laws and prevent their abuse now prevalent. It is to be hoped that this question, and the allied one of notion houses and grocers selling toxic drugs, may receive more attention in future, and that the proper channels of trade, for at least medicinal preparations, may be established, that the pharmacist may profit thereby.

⁂

Mr. Gladstone has written a very important letter on "Grocers' Licenses," in connection with which he has a responsibility which some of his best friends and supporters feel to be very heavy. There is a wide belief that these licenses greatly favor the furtive and excessive use of alcohol, especially among women, not excepting young women of the upper classes. This growth of drinking among women seems a most painful novelty in our civilization, and is shown, amongst other things, by the greater boldness with which they enter public-houses, railway and other refreshment rooms, and confectioners' shops where the demand for confectionery is but a cover for a glass of sherry or champagne.

A recent writer in a new magazine, *The Three Spires*, gives an account of a conversation with Mr. Gladstone on this question, in which the writer told the venerable statesman that it was sad to see how many more young girls frequented the public-house than young men of the same age. This seemed to surprise Mr. Gladstone, whereupon the writer gave him the facts taken from observations made in Nottingham, showing that between the hours of 7 and 11 P.M. on Saturday, 460 lads, apparently under twenty-one years of age, entered seven public-houses, but during the same time 1,009 girls of the same age did so; the reason being that the girls were generally treated to drink, while the lads had to pay for themselves. The only question is, whether such facts can represent a general state of things. We hope not, though we have heard of similar observations in London. Be this as it may, there is a very general impression that there is too much drinking among women, and that this is facilitated among women of the upper classes by grocers' licenses and by retail *beer* and *wine* licenses together. These last, dating from 1880, have increased from 2,770 to 4,630—consumption *on* the premises. The class of licenses chiefly used by grocers has gone up from 3,251 in 1870 to 6,210 in 1889.

Of all statesmen capable of legislation in this direction, and of whom such legislation may be expected, there is none more notable than Mr. Gladstone, and we shall look with much interest to see whether his letter is followed by repressive action.

THE LESSON TAUGHT BY "PUDDING OPIUM."

The editor of the *Pharmaceutical Record* (April 7th), with incisive pen discloses the abuses that characterize the manufacture and sale of opium, especially commenting on an adulterated product known as "Boston" or "pudding" opium, the departure made from making opium preparations in accordance with pharmaceutical requirements, and the necessity for making quality rather than price the standard by which drugs are purchased.

The remarks, so forcibly and eloquently made on these topics by our contemporary, furnish a convincing argument for the necessity of standardization of certain drugs, which is now receiving so much attention from the pharmaceutical press. We submit the facts without further comment, as they adequately convey their own moral:

⁂

For many years past it has been possible to procure in open market without any special trouble a natural opium that would average 10 to 11 per cent. of morphine, occasionally even more, would dry and powder readily, and from this powder the assay would show a morphine strength of 12 to 16 per cent., and at times approaching 17 per cent. A few years ago there appeared in our market a variety of opium which in appearance was soft, had a smooth texture, and seemed to the casual observer a more satisfactory article than that usually sold. Soon afterward it came to be known that this was an article especially prepared abroad for the American market to meet the requirements of the Custom House inspection of drugs, which, in accordance with the United States Pharmacopœia standard, says that "Opium in its normal, moist condition, should yield not less than 9 per cent. of morphine when assayed by the following process." The natural opium was worked over, and *adulterating* material added until it was weakened to a point where it would just meet the required percentage and not be rejected by the inspector's experts. This variety has since acquired the trade name, in perhaps a sort of slang, as "pudding" or "Boston" opium.

⁂

It is now asserted that there are parties in New York City that are engaged in manufacturing this "trade" opium from the natural opium, and that both the imported and domestic products of this *trade* opium, are sold very largely to the exclusion of true natural opium.

We have it on good authority that this "trade" opium is almost always sold by the jobbing druggists when opium is ordered or purchased without special designation as to quality—that is, when simply opium is quoted, asked for, or ordered by mail, "trade" or so-called 9 per cent. opium is quoted or sold, and that the larger proportion of what is handled is this adulterated variety. "Trade" opium is, therefore, properly speaking, an adulterated article, because *inert* and valueless material is added for the purpose of fraudulent gain. It is sold at a price but very little less than that at which a natural opium of much better grade can be purchased, and this is a deceit and fraud which the retail trade is not sufficiently aware of.

⁂

The U. S. P. directs in all the preparations made from this drug that it be from "Powdered Opium." How many pharmacists do this? We venture to say that a very moderate percentage of those who make these preparations follow this rule.

The assays made by experts on Boards of Health, and those who have made reports to State Pharmaceutical Associations, almost invariably show that the great majority of their results are below the standard. Recently we learned that some druggists complained to the wholesale house that opium purchased from them was not satisfactory, and on inquiry it was asserted in each instance that they could not make the tincture from the crude *drug*. They were making it from crude drug, in some instances using the same quantity of drug that was ordered of powder, and as they had bought the opium on a low quotation, or without any specification, the kind supplied was "trade" opium.

⁂

Why should not quality always be the ruling motive in the purchase of drugs and chemicals? Is it not a fact that price asserts itself first, and because of this, the quality weakens? Observation during many years, and recent facts, show just that same propensity to place profit before quality, and often before honesty, that tends to demoralize our craft, to say nothing of the disappointment that comes to the physician and patient at times. We would like to urge our readers that, while to secure low prices in their purchases is commendable, it should not be at the sacrifice of medicinal values. "Pudding" opium may be a few cents (rarely more than twenty-five) a pound cheaper than natural opium of better quality, but *you have been cheated* to a greater extent than that, besides encouraging adulteration, and that by a class of men who, in doing this, are little better than thieves or murderers. And this is our opinion of all who *intentionally* defraud in the matter of medicines by substitutions which cannot be detected by the consumer. See to it that you place quality before price.

Original Articles.

PRACTICAL PHARMACY.

THOUGHTS ON CURRENT TOPICS.

BY H. M. WHELPLEY, M. D., PH. G.

If the seventh decennial revision of the United States Pharmacopœia contains a list of the maximum doses of drugs, chemicals and preparations, the work will be consulted by many doctors and druggists who would otherwise let it alone. Theoretically it would be more in keeping with the nature and purpose of the Pharmacopœia to omit such a list, but practically the information is required. A vote of the retail druggists and practicing physicians of the country would soon decide in favor of the list, and I expect to see the Pharmacopœial Revision Convention take like action. Posology is a subject on which no one is needlessly well posted, for it requires considerable study and constant attention, or much of that which was once learned is soon forgotten. The application of posological knowledge on the other hand is great, and command of it is frequently of vital importance.

In many sections of the country, registered druggists are exempt from jury duty. This, however, does not keep them entirely out of the clutches of the law. They are liable to all the legal annoyances that befall an ordinary citizen, besides those peculiar to their business In view of all of these facts I believe that each college of pharmacy should have a short course of lectures by some jurist who has studied up the points of special interest to pharmacists. There is no one of the many special courses of lectures delivered in medical colleges that awaken more interest than those on medical jurisprudence, and I believe that pharmaceutical jurisprudence is equally worthy of consideration in the colleges of pharmacy.

Some druggists are always wondering how it is that other members of their craft find time to write papers for pharmaceutical conventions, send communications to journals, and perform other similar work. One of these inquiring druggists recently said: "It requires time to write articles. It also requires being in a good humor to do so. When business is very dull, I have plenty of time, but very little good humor. When trade picks up my stock of good humor is large, but time is correspondingly scarce." To all who feel as my friend, I would say, consider the literary work a part of your business, and make it a rule to think and write a little each day, and you will soon surprise yourself and others with the result of your good resolution.

Any one who has studied many of the papers read at the various pharmaceutical conventions, could not help but notice many that could be greatly improved by cutting them down in size. A paper, in order to be acceptable to the audience and the subsequent readers, should be free from superfluous language. The points to be presented must be so arranged that they stand out prominently, and are readily observed by those interested. Another convenience of a systematic arrangement of the points is, that it enables the author to refer to any one, or all of them, during the discussion which follows the reading. I find that those who write papers are much more liable to make them too long and verbose, than so short that they are not clear from a want of language.

Microscopical literature now forms a part of the regular reading matter in pharmaceutical journals. As such, the druggists of this country become familiar with a large proportion of the articles on microscopy which interest them. Those druggists who are fortunate enough to own instruments, can profitably read two journals which are devoted exclusively to microscopical subjects. One is *The Microscope*, published at Trenton, N. J. and the other the *American Monthly Microscopical Journal* of Washington, D. C. The subscription price to each is one dollar per year. I also advise every one working with the microscope to purchase a copy of "How to Work with the Microscope" by Phin. A new edition of this work has recently been issued and sells for one dollar per copy.

A microscope as a portion of a druggist's outfit for the practice of the pharmaceutical profession, is by no means a necessity. In fact, very few instruments or books are actually required to supply a druggist's laboratory. I have had this forcibly impressed upon my mind while visiting registered pharmacists whose entire library could be placed in a plaster box, and their chemical apparatus covered with a cigar box. The necessities of this life are extremely few, and pharmacy, as practiced by some persons, does not materially increase their number. It is to the progressive, successful, and clear-headed pharmacist, that a microscope becomes an object of value and consideration. The number of such pharmacists is by no means small and is gradually increasing. The druggists who use the microscope are not confined to graduates in pharmacy, for I know of several who have taken up the study of their own accord, and profited thereby.

I have met with a class of physicians who seldom ever write a prescription, but dispense their own medicines, or give verbal directions when patients are obliged to visit a drug store. They do this because they realize that their education on the subject of prescription writing has been neglected, and they do not feel like running any risk of exposing their ignorance. Another class of physicians who interest me more, is the one composed of doctors who know less, if anything, than the class to which I have just referred. But somehow they fail to comprehend the situation. In place of desisting from prescription writing, they never lose an opportunity to make out such an order, and the prescription files are filled with their autographs like the sick chambers with the mixtures prescribed. It is needless to state that neither one of the above classes comprise physicians who have studied pharmacy.

The season of State Pharmaceutical Association meetings is now upon us, and their reports will occupy a large portion of the space in the drug journals during the following four or five months. The value of these reports will depend upon two important factors: First, the character and ability of the members present at the meeting. Second, the view they take of the objects of an Association and its annual conventions. Third, the dexterity exhibited by the reporters in writing up the proceedings. These annual meetings are attended by two great classes of delegates. One faction comes to read papers, hear papers read, discuss papers, and exchange ideas on pharmaceutical subjects. The members of the other class are on hand to "get away from home," to "see the elephant," to advertise their goods or themselves, or both. The nature of the general views regarding the objects of an Association will vary with the varying proportions of these two elements. It frequently happens that the published reports are written by some one who is incompetent to give an intelligent account of pharmaceutical proceedings. Such reporters omit that portion which pertains to the profession, and fill up the space with other material. The communications read like so-called pharmaceutical journals that are in the hands of parties not pharmacists, or in any way qualified to judge of what interests the profession. With all of these facts in view, I would advise the retail druggists of this country to attend their respective State meetings, and see for themselves just what is done and can be accomplished.

The practice of pharmacy as found in the retail drug stores of a great city, is not the life of ease and luxuriance that many imagine. Nor is it as scientific and professional as country druggists conclude when they think of the long prescription file which hangs behind the prescription case of the average city pharmacy. I have had occasion of late to examine some of these imposing collections of professional documents. I was surprised to find so many calling for patent and proprietary preparations in original packages. Some of the practicing physicians write prescriptions after the following model.

℞ Cure 'em Quick's Cough Syrup, Bot. I.
($1.00 size).
Use as directed.
Dr. Moneymaker.

One down-town druggist who has a large prescription trade, informs me that he never permits such a prescription to contaminate his file. He fills the prescription, and says to the customer: "Keep this *order*, for you may need another bottle of the same *stuff*." I think these prescribers must belong to the class of physicians to whom a writer referred when he stated that "a doctor is a person who pours medicine of which he knows little, into bodies of which he knows less." Such a prescription could be readily filled by dropping sixty-nine cents (cut-rate price for a dollar preparation) in the proper slot of the patent automatic doctor of which we have read, and as far as the druggist is concerned, the prescription had better be filled by such an automoton.

CHEMISTRY.

SPERMINE.*

Dr. Victorin Groozdev reports in "*Vratch*," a Russian journal, remarks made by Prof. A. V. Pel on Spermine, at the meeting of the St. Petersburg Medical Society, Jan. 31st, '90. Referring to the late discovery of Brown-Séquard, which occasioned so much notoriety abroad, Prof. Pel unreservedly declared himself in favor of the opinion of Prof. Count I. R. Trachan-Mogravov, that as yet it is too soon to make experiments with the Brown-Séquard fluid on human beings, before its action has been made apparent experimentally on brutes. Many others, think, however, differently on this question.

The American firm of Parke, Davis & Co., having supposed that the active principle of Brown-Séquard's injecting fluid was spermine, proposed that substance as a safe remedy for further experiment, as being free from the possible unpleasant accidents of septic infection which are connected with the original method of the eminent physiologist. It was this circumstance that led Prof. Pel to make his remarks.

The prismatic crystals found in the human semen which attracted the attention of Charcot, Robin, Neumann, Bötticher, and others, were regarded at first as some peculiar albuminous substance. Schreiner (Liebig's Annalen, T. CXCIV, p. 68) convinced himself that these crystals consisted of a phosphoric salt, which had for its base C_2H_5N, (spermine.) For a long time these crystals were regarded as characteristic of the semen, until Fürbinger (*Zeitschrift für Klinische Medicin*, 1881, p. 287) demonstrated that they always occur when a phosphoro-ammoniate is added to the secretion of the prostate gland. Fürbinger thinks that spermine does not occur in the semen, but in the form of a muriate salt in the prostatic secretion, and that the finding, therefore, of these Charcot-Neumann crystals in the mucous of the urethra, may be taken clinically as an evidence of prostatorrhœa. Wagner discovered these crystals in the blood of a body dead from leucocythæmia; Förster and Harting found the same in the expectorations of patients suffering with pulmonary consumption, emphysema, and pneumonia; Kunz obtained them recently from cultures of cholera bacteria or serum-albumen (*Jahres bericht der Thier-Chemie*, 1888, p. 371); and recently also Ladenberg and Abel, (*Berichte der Deutschen Chemischen Zesellschaft*, 1888, p. 758,) found spermine to be identical with Ethylenimine, C_2H_4NH.

As to the physiological action of spermine, Parke, Davis & Co., who propose for therapeutical use a solution of the same in a mixture of glycerin and water, (muriate of spermine 0.24 gramme, water and glycerin, each 15 grammes) given hypodermically, think that the employment of this agent may produce decided results of "rejuvenation, or at least temporary stimulant action." This opinion is confirmed by the recent experiments of Variot, who found:

1. That the hypodermic injection of spermine, although painful, is not dangerous.
2. That subsequent injections do not produce even a passing feeling of discomfort.
3. That the effects of these injections show themselves in a general elevation of nervous action, increase of muscular power, improvement of the digestive process, and an arousing of cerebral activity.
4. That sexual excitement does not always follow an injection.

Parke, Davis & Co. point out in evidence of this stimulant action of spermine, the depressing effect which occurs from the loss of this substance in pulmonary phthisis, emphysema, catarrhal pneumonia, leucocythæmia, sexual excesses, etc., etc.

Prof. Pel remarked that the explanation given as to the action of spermine, has as yet no completely scientific foundation. As to its chemical character, he was of the opinion that it is not a ptomaine, since it is a normal constituent of the semen; neither is it a leucomaine, since its presence does not produce in the organism the phenomena of self-poisoning. He pointed out further the specially interesting circumstance, that we have here proposed to us as a remedy, an organic base which is elaborated in the organism under normal conditions. In concluding, he reiterated his previously expressed idea, how important it is to study out the physiological actions of the artificially obtained organic bases of this kind.

---

* Translated by Eph. M. Epstein, M. D., A. M., West Liberty, Va.

The remarks of the Professor were followed by a discussion in which many participated.

BOTANY AND MATERIA MEDICA.

SOJA.

(*Glycine Soja*, (L.), Sieb. et Zucc. Syn., *Dolichos Soja*, L.; *Soja hispida*, Mœnch; *Soja javanica*, Savi.)

BY H. H. RUSBY, M.D.

The important food plant which we have selected as the subject of our illustration this month, has been attracting a steadily increasing attention in the pharmaceutical press during the past year or two. While its remarkable nutritive value has been known and appreciated for a great length of time, the more recent interest in it has centered in its approximate freedom from sugar-making constituents. Such constituents exist in it in the proportion of only 6.4 per cent., while in peas, beans, and lentils they exist in the proportion of from 50 to 54 per cent.; yet the latter seeds are generally considered as being exceptionally rich in nitrogenized constituents. A complete comparison of the nutritive ratios of these foods is presented in the following table:

	ALBUMINOIDS.	CARBO-HYDRATES.	FATS.
Soja	36.67	6.40	17.60
Peas	20.2	54.4	1.7
Beans	23.	50.2	1.4
Lentils	21.4	51.2	2.2

So far as I am aware, there is no other crude product of vegetable origin which represents so large a nutritive ratio as Soja, as indicated in this table. And it is this fact which has suggested its utilization in the preparation of a bread for patients afflicted with diabetes. The large percentage of oil, which has decidedly cathartic properties, has been quite an obstacle to its utilization in this way, but processes are now resorted to by which the greater portion of this is gotten rid of, and a fairly palatable, wholesome, and exceedingly nutritious food, prepared from it. On account of its great nutritive value, which is almost double that of average lean meat, Soja has from early times been a very highly esteemed article of food in Japan, where it has formed an important ingredient of soups and sauces; likewise a peculiar variety of vegetable cheese, closely resembling animal cheese in composition, is extensively prepared from it.

As to the genus to which this plant belongs, there is some difference of opinion. The judgment of Linnæus in referring it to the genus *Dolichos*, is now accepted by no one. The only question is, whether it, with a few other species, constitutes a group generically distinct, as was considered by Moench, or whether that group should really form, as believed by Bentham, a section of the genus *Glycine*. The latter view is adopted in the Genera Plantarum, which we have followed. From that work we translate the following description of *Glycine:*

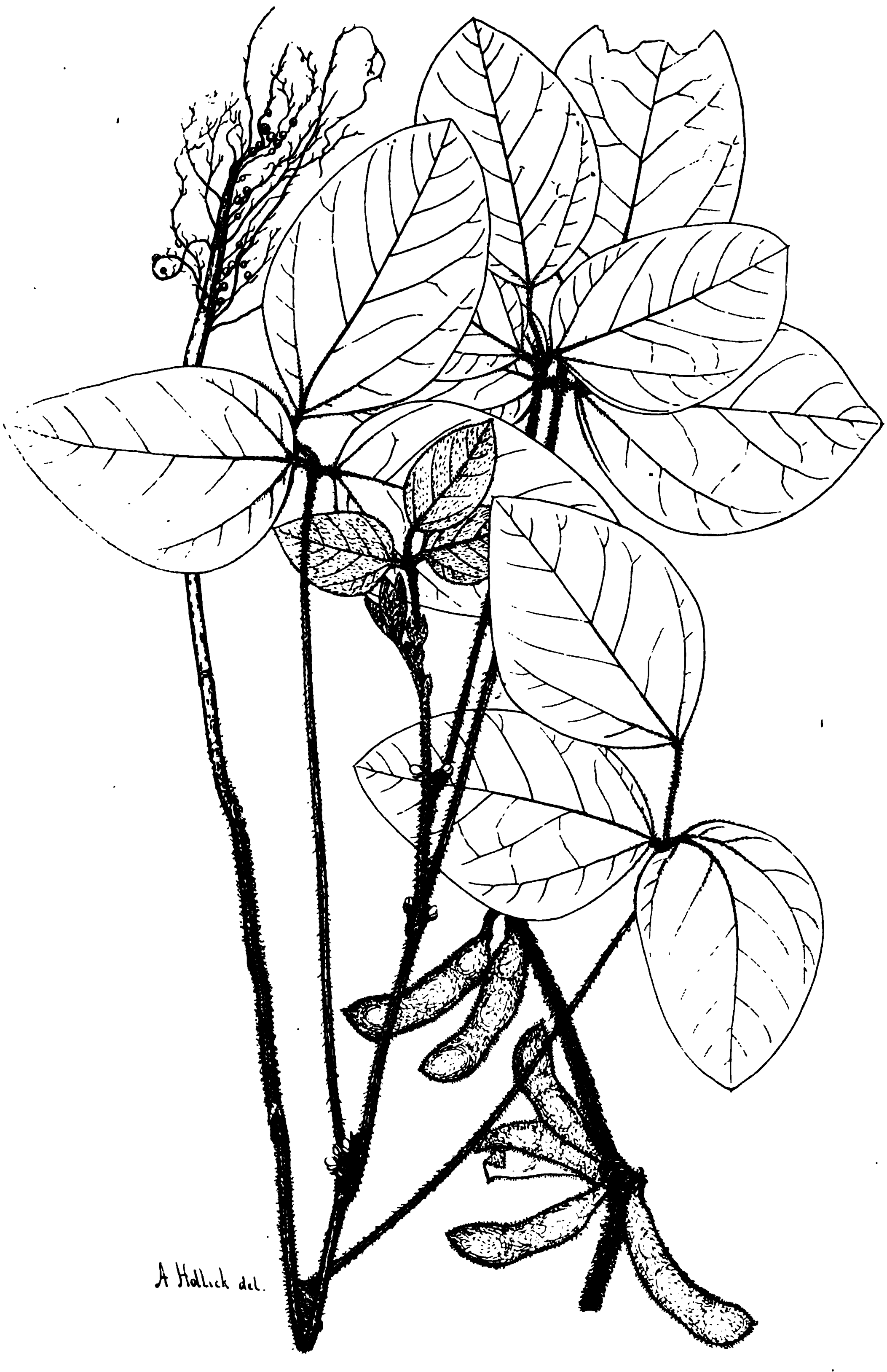
> The two superior calyx-lobes connate only at the base or above the middle. Standard sub-orbiculate, spreading, the base sub-auriculate, the margins not inflexed; wings narrow, lightly adherent to the keel; keel shorter than the wings, obtuse. Stamens all united, or the upper at length, rarely from the first, free. Ovary subsessile, indefinite ovuled; style lightly incurved, usually short, unarmed, the stigma terminal, capitate. Legume linear or falcate, compressed or becoming at length sub-terete, two-valved, sometimes cellulose septate between the seeds, barely apiculate. Seeds estrophiolate. Climbing or prostrate herbs, slender, or rarely sub-erect. Leaves pinnately three, rarely five or seven, foliolate, stipellate. Stipules small. Flowers small, purplish or pale, disposed in axillary racemes, either solitary or fascicled on the rachis, or the inferior (occasionally apetalous) solitary in the axils. Bracts small, setaceous; bracteoles narrow or minute. Species about twelve, growing in the tropics of Africa and Asia, and in Australia.

From a paper by Bentham in the "Proceedings of the Linnæan Society," VIII, 266, we find that the section Soja is distinguished by having the flowers fascicled, the legume broadish, straight or falcate, not depressed between the seeds. This section contains four species from tropical Asia and Africa, one of which is the *G. Soja*, which is described as follows: "Villous, flowers fasciculate, the inferior axillary, the superior racemes shorter than the leaves, the corolla nearly one-half longer than the calyx, the legume broadish, falcate, two- to three-seeded."

Spontaneous on the margins of fields and cultivated places over a great part of tropical Asia.

MONTHLY REVIEW.

For the first time in the history of agricultural science we have indubitable evidence that sugar-cane has been produced from seeds. Although claims have been at various times put forth in botanical and pharmaceutical journals that sugar-cane in one or another section has produced seeds, yet the actual demonstration of the vitality of such seeds, and the production from them of seedling canes, has never until the present time been recorded. Prof. J. H. Hart, the Superintendent of the Royal Botanical Gardens, contributes, on page 15 of the January number of the *Agricultural Record* of Trinidad, an account of this important event. Messrs. Harrison and Bovell, of Barbadoes, he says, have been for many years engaged in experiments look-


A Hollick del.

EXPLANATION OF CUT.—*Glycine Soja* (L.), Sieb. et Zucc., reduced nearly half. (*a*) Flowering plant from the herbarium of Maximowicz, and obtained from cultivation in Yokohama, Japan. (*b*) Fruiting branch, cultivated at the Geneva Botanical Garden.

ing toward the accomplishment of this result, but not until last year have they succeeded. They now distribute both cane seeds and seedlings grown in Barbadoes, a portion of both having been received at the Botanical Gardens in Trinidad. With the dry seeds were sent a few preserved in glycerin, which had already germinated, and these were found to exhibit germination of a perfect character. The seedling canes were found upon examination to present marked variations among themselves, thus leading to the hope that distinct varieties will result from the circumstance. Prof. Hart refers briefly to the great desirability of accomplishing such a result. Hitherto we have had but one variety of sugar-cane. Plants, being derived from cuttings, have shown no great disposition to vary, and the slight variations observed have not been constant. Cultivators, therefore, were absolutely compelled to adapt their soils to the nature of the plant, and if such adaptability was not practicable, then the cultivation of sugar-cane had to be abandoned. For the same reason its cultivation was pretty rigidly restricted by climatic conditions. Now, as Prof. Hart suggests, there is no reason why, taking advantage of variation resulting through reproduction, we should not succeed in establishing wide differences in variety, and in securing varieties of sugar-cane that shall be especially adapted to climates and to varieties of soil which have not heretofore permitted the possibility of its cultivation. Certainly such a result is greatly to be desired, and we look with deep interest upon future reports of progress in this direction.

In the same journal Mr. E. D. Ewen contributes some "Notes on the United States as a Market for Trinidad Fruit and Other Products." This article comes just at a time to emphasize most strongly the great unwisdom of the present Committee on Tariff Revision in imposing an unqualified duty upon the import of oranges. Mr. Ewen discovers the important fact that Trinidad oranges can be sent to our market just at a time when the Florida crop comes to an end, and can afford us an abundant supply of this delicious and wholesome fruit during the four or five months when we receive only a very sparing supply of a very inferior article. But on the same day that we received the journal, we read that the Senate Tariff Committee had placed an unqualified duty upon imported oranges. It would really seem as though this provision might be so modified that oranges arriving only during those months when they will come into competition with our own product, should be taxed.

The *New York Medical Journal* reprints the conclusion of one of the most important of recent experimental studies, by Dr. N. Reichmann, upon the action of the simple bitters on the functions of the sound and diseased stomach. This is really a question upon which information cannot be too thoroughly or too extensively diffused. We have long felt that the larger portion of these simple bitters that are prescribed are unnecessary, or injudiciously administered. The extensive studies here reported by Dr. Reichmann, exactly confirm our previous impressions:

1. The action of the different bitter remedies is about equal.

2. In every fasting stomach, whether with normal secretion, or attended with diminished or increased natural secretion, the introduction of a bitter infusion is followed by a greater secreting activity than when simple distilled water is used.

4. When the bitter infusion is taken on an empty stomach, it stimulates the gastric secretive apparatus for some time after it has disappeared from the stomach.

5. Bitter infusions given at the same time food is taken, interfere with the digestion of the latter; they seem also to interfere with the mechanical activity of the stomach.

6. The employment of bitter infusions for several weeks, produces no functional change in the healthy or diseased stomach."

From this, the following indications for the use of bitters may be readily deduced:

First.—It does not matter much which is given, and it is well to change the article from time to time.

Second.—Give them a short time in advance of the meal, so that they shall not be in the stomach together with the digesting food.

Third.—Given in small amounts and well diluted, they will have the good effect of larger doses in a more concentrated form. Hence the tinctures or infusion are preferable to fluid extracts.

Fourth.—Administering these in a pleasant form, particularly in capsules, results in the smallest amount of benefit to the patient. They should be given in a bulky condition and slowly taken, so that the full effect of the bitterness, however disagreeable it may be, shall be experienced by the nerves of taste. It is well known that the stimulating effect upon the stomach begins so soon as these bitters are taken into the mouth, and it is even believed that to hold these substances in the mouth, or to gargle with them for a time and then reject them, would be useful in cases where it was not deemed advisable that they should be taken into the stomach itself.

Dr. Joseph Adolphus, of Atlanta, presents his experiences, *Med. Age*, Feb. 25th, p. 82, with the fluid extract of coca in catarrh of the stomach and duodenum. His method of administration is in homœopathic doses, yet he believes that great good has resulted from such administration. Those of us who have failed to observe any appreciable effects upon the human system from the administration of these small doses, will be inclined to believe that the favorable results were due rather to improved hygienic conditions. Certainly the writer, who has seen large and repeated daily doses of coca chewed by a whole race of people without any exhausting effects, cannot agree with Dr. Adolphus in feeling that it is a sad sight to behold one who has been exhausted by the rather common fault of prescribing too large doses of coca preparations in this country. Only in exceptional conditions can doses containing ⅓ of a grain of cocaine or less be considered as too large, and we must believe that in general the doses of cocaine administered are not sufficient to meet the indications, rather than that they are excessive.

One of the subjects upon which there is the greatest diversity of opinion in therapeutics, is the value of *Anemone Pulsatilla*. In previous numbers we have recorded various eminent authorities as denying its efficiency. Now we have to note a paper by Dr. Bovet bearing testimony to its great value in dysmenorrhœa.

Theophylline is a new base which has been obtained by Prof. Rossel from an alcoholic extract of tea, a concise account of which is reprinted in the *Medical Age*, for February 25th, p. 94. The new alkaloid is isomeric with theobromine. Experiments as to its therapeutic value are desirable.

Dr. Luederitz claims to have established the fact that the infusion of coffee possesses an important antiseptic effect in the gastro-intestinal cavity.

Dr. H. A. Hare, the editor of the *Medical News*, believes that the use of strophanthus is preferable to that of digitalis in the treatment of cardiac diseases in children, not only because the effect sought is more certain, but because there is less tendency toward stomach disorder.

A contribution on the subject of "Bacterial Poisoning through Medicines," is presented in the *American Journal of Pharmacy*, for February, by Dr. H. P. Campbell. The whole paper will repay careful reading, and one can hardly condense it with justice to its author. A strange thing seems to be the occurrence of great numbers of micro-organisms in a preparation of whiskey and quinine.

In the *Druggists' Circular*, p. 50, under the editorial title, "A New Trade-Mark Claim," comment is made on the astonishing fact that the proprietors of trade-marks have denied the right to the publishers of dictionaries to print their names, except by stating after them that they are trade-marked. This departure is justly characterized by the *Circular* as a "new step toward trade-marking the language. The concession will establish a certain kind of right, and by and by we may see new words in the dictionaries with the appended acknowledgement that they are used 'by kind permission of the author.'"

A sample of leaves and berries has been received for identification from W. H. H., a correspondent in Mississippi, with the information that they are considered poisonous to stock of all kinds, and also to poultry. The specimen is undoubtedly, *Prunus caroliniana*, Ait., a very closely allied plant to the *P. Laurocerasus*, Lin., from which the Aqua Laurocerasi of the British Pharmacopœia is made. This official preparation owes its efficacy or medicinal activity to the presence of hydrocyanic acid, and there is little doubt but that the same poisonous principle can be furnished by the leaves and fruit now before us. We should certainly consider them poisonous. The tree is known by very many vernacular names among which are, Wild Ivy, Wild Orange, Wild Peach, Mock Orange, and Winter Laurel.

E. W. K., Kentucky, asks us to give him the "botanical equivalents" for the following four vernacular names, viz.: Kanchi Root, Vala Root, Salu Herb, Sorge Herb. All the four names submitted are undoubtedly of East-Indian origin, but two of them—the two last mentioned—are not quite distinct enough in their spelling, however, to warrant positive identification. "Kanchi" is indeed a recognized Telugu name for a species of bean, the *Dolichos ciliatus*, Klein, but "Canschi" is Malayalma for an entirely different plant, the *Trewia nudiflora*, Lin. Both sounds are the same, and again the root of the latter is used medicinally—of the former there is no record. Vala, as written by our correspondent, is Malayalma for the *Cratæva religiosa*, Forst.. *var. nurvala*, Hook. f. et Thoms. We cannot trace the other two as supplied to us, but they bear very close resemblance to what we might consider they were intended for, if we were allowed to substitute similar sounds but different spellings, as instanced above.

Grafting Wax. This is about the time of the year when country druggists are asked for this article. Druggists in agricultural districts generally possess a formula of their own for making it, but possibly the following may not come amiss to some one who is looking for information on the subject. A good grafting wax may be made by melting three parts of rosin, three parts beeswax and two parts of tallow. The qualities which distinguish a good article for the purpose for which it is required are: High enough melting point to resist the sun's heat; that it will not stick to the hands; and that it will be plastic enough on being slightly warmed to "work" into the shape desired.

Hellriegel's recent experiments seem to have at last conclusively shown that the Leguminosæ (beans, peas, clovers, sainfoin, lucerne, etc.) can take the whole of their nitrogen from the air, and that they are not dependent on the soil for their nitrogenous food as are the graminaceous plants, such as the cereals and grasses. In the first place, barley, oats, peas, etc., were grown in pots containing pure washed sand, to which nutritive solutions free from nitrogen were added. The barley and oats failed, while the peas and other leguminous plants grew wonderfully well.

Then these plants were grown in pots placed under a glass shade, the air in which was washed to remove from it all traces of nitric acid. The growth of the leguminous plants under this operation was as good with the washed as with the unwashed air.

In both these cases, the peas continued to grow until the material in the seed was used up. Then, if a very small quantity of cultivated soil were added to the ground near where the plants grew, they recovered their growth and grew luxuriantly up to ripeness. With the plants other than the Leguminosæ, however, which take their nitrogen from the soil, growth was proportional to the available supply of nitrogen in the soil, and, having once shown the appearance of nitrogen-hunger, they were unable by any means to recover therefrom. Hellriegel concludes that leguminous plants are distinguished from graminaceous plants in not being dependent on the soil for their nitrogenous food. American investigators are not ready to take such extreme grounds.—*American Agriculturist.*

Prof. W. E. Stone finds that the saccharine substance in sweet potatoes is in the form of sucrose or pure sugar. Fresh potatoes may contain two per cent. of sucrose—enough to determine the amount with the polariscope. The temperature of cooking (baking) inverts the sucrose, and converts more or less of the starch into a soluble form.—*American Agriculturist.*

PHARMACEUTICAL APPARATUS AND INVENTIONS.

DESIGNS FOR A METRIC BOTTLING APPARATUS.

BY A. L. JOHNSON, PH. B.

The custom of selling fluid medicinal preparations by volume rather than by weight, coupled with the fact of the wide variation in the best of bottles, makes the question of measuring and bottling a doubly trying one to the manufacturer.

The several forms of automatic bottle-filling machines which are successfully operated at mineral springs and in the putting up of beer, soda-water and the like, are wholly unsuited to the needs of the manufacturing pharmacist, for they are both cumbersome and inaccurate. The pharmacist has a long list of products, and each of these perchance is offered in three or five different sized packages, adding much to the complication of finishing; and the final preparations are in themselves costly, so that a fourth or eighth of an ounce more or less per package represents, in the course of a year, a large amount of money. Further than this a large class of pharmaceutical preparations are of a highly volatile nature, so that undue exposure in bottling causes not only an actual loss in volume, but, at the same time, alters the strength of the preparation and often produces cloudiness or precipitation.

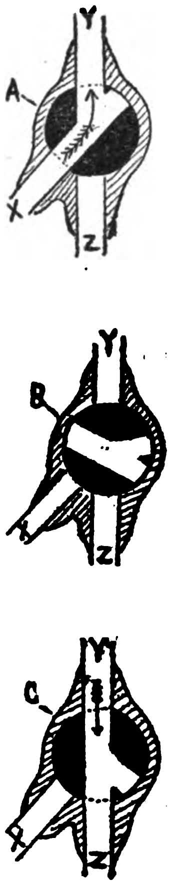


FIG. 1.

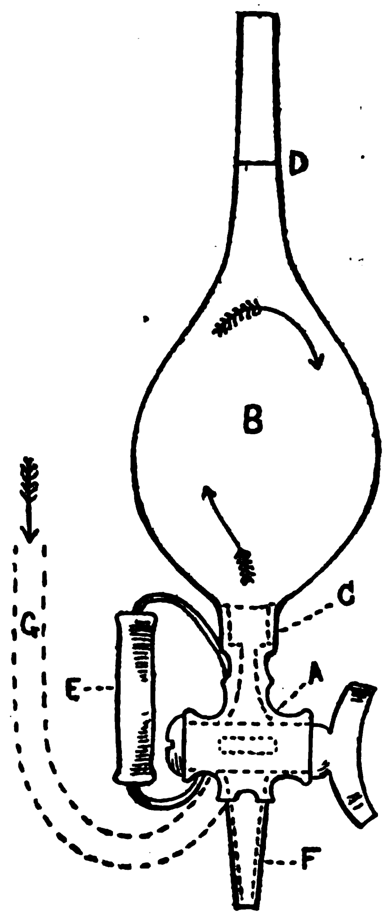


FIG. 2.

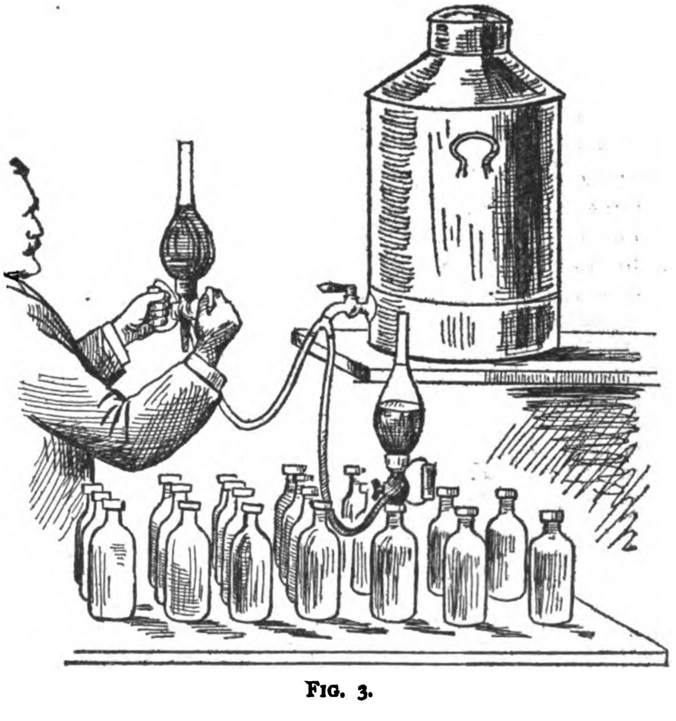


FIG. 3.

These being the conditions then, we see that a successful bottling appliance must be at once simple, in order that it may be most readily cleansed and contaminate the least possible amount of fluid measured; it must be to a fine degree accurate, and involve little exposure of the fluid; and, after these essential considerations, it must possess also the practical quality of being convenient, and must do much work in little time.

As a result of the consideration of all these features, the accompanying two designs are offered—one being intended for the bottling of small lots—say 60 pints—and the other for the finishing of lots of a barrel or more.

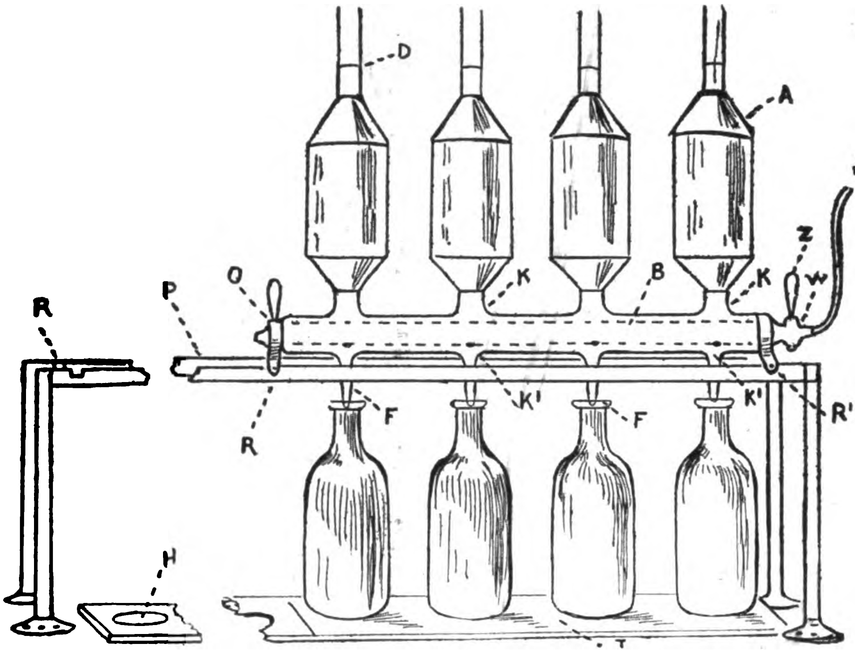


FIG. 4.

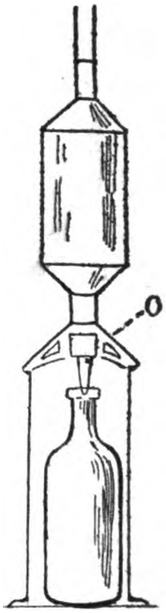


FIG. 5.

The idea involved in either design is the utilization of a three-way cock in filling and emptying a graduate. Many forms of apparatus other than those here presented, and conformable to this principle, will readily suggest themselves. The upright arm of the cock is fitted to the bottom of a graduated measure. The side arm is connected with the reservoir of liquid, which is in slight elevation, and the other arm serves in conducting the measured liquid into the bottle beneath.

Figure 1. shows the cock in the three positions in which it is used. In A it is open, and the liquid flows in at *X* from the reservoir, through the cock, and into the measure at *Y*. The measure having been filled to the mark, a quarter turn of the cock, as represented in B, shuts off the inflow and retains the liquid in the graduate. Another quarter turn (C), and the measured liquid is discharged through *Z* into the bottle below.

Figure 2. represents one of the simplest applications of the cock in the form of a portable measure. The measure proper B is attached at C, and may be of glass, as represented in the cut, and specially blown for the purpose, or may be made of metal and fitted out with a neck of glass tubing on which the graduation is made and the measurement registered, as at D. G shows in outline the rubber tube connection with the reservoir, and F is the outlet made to fit into the mouth of the bottle. E shows a handle which may be easily attached. By having the graduate free in this manner, it may be raised to the level of the eye for closely adjusting the measurement, and any excess may be run back into the reservoir provided the latter is at the proper level.

Where time is not a consideration, and for occasional use, a metallic measure of similar description may be directly attached to the faucet of the container, and a bottle may be measured and filled in this way nearly as quickly as it could be filled from the plain faucet.

When consecutive measurements are to be made, however, and where the greatest economy of time and labor is desirable, the portable form is recommended, and two graduates, as shown in Figure 3, may be used to the best advantage, as will readily appear upon consideration. By having the two graduates, one may be filled while the other is emptying into the bottle; by having these graduates portable, a second and third handling of bottles is done away with; and, as the table may be completely filled at the outset, a double number of bottles may be operated upon at one time.

For the bottling of larger quantities of fluid preparations, tierce or barrel lots, for example, some more expeditious method is necessary and a stationary apparatus most desirable. The appended cuts (Figures 4 and 5) give a general idea of an apparatus designed for this purpose.

As appears by the cut, the purpose is to fill four bottles at one time. There are, to begin with, four metallic graduates with glass necks (A) which, it may be noted, must in this case be of exactly the same size, as the measurement consists in bringing the liquid in all to the constant level D. The letter B refers to a modified form of what may be called a combination three-way cock, which answers at once the purpose of cock and feed tube. A reference to Figure 6, which represents a cross-section at the point of attachment of one of the measures A, may lead to a better understanding of the apparatus. The long brass cylinder B with the four double arms, K K', is bored out to exactly fit the cylinder-rod W, and yet allow it to turn freely after the manner of the common stop-cock. The small bore *M* in the cylinder W, is placed to one side near the surface (see cut), leaving the opposite wall heavy. At four points along this cylinder, corresponding to the openings K and K' in the outer cylinder B, the thin wall is punctured (S) and the opposite heavy wall is grooved out (T). The liquid enters the apparatus at W (Fig. 4), and occupies the space M (Fig. 6). So that when W (which is turned by the lever Z), (Fig. 4), is in position (Fig. 6—1), the liquid flows up into A, and is thus measured. In position 2. the supply is shut off and the liquid runs out of A, down through the groove T, into the bottle below.

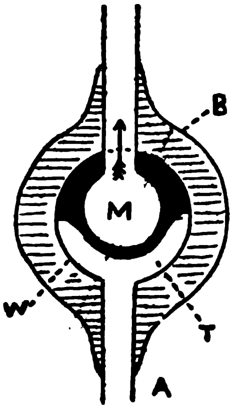


FIG. 6.—1.

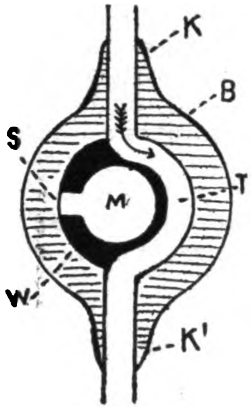


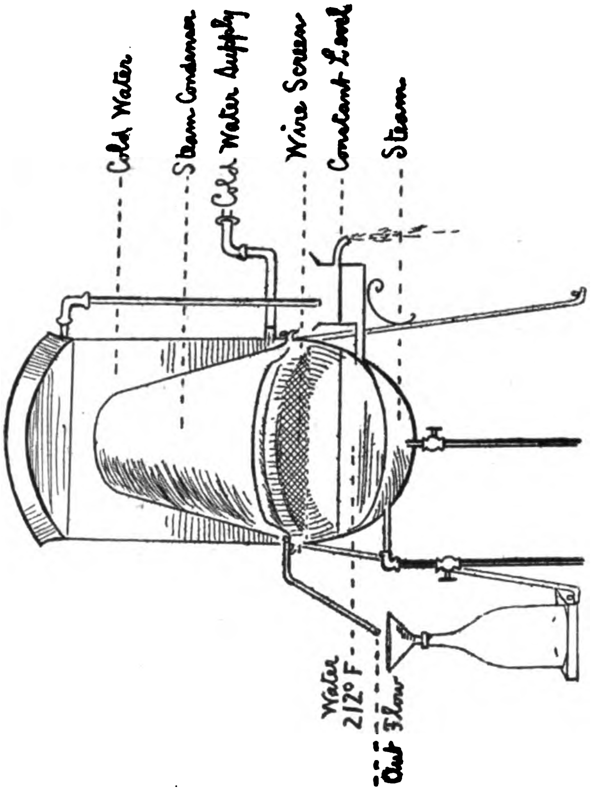
FIG. 6.—2.

As to the further arrangement of this apparatus, it rests on two triangular supports (O, Fig 5.) placed at either end and which slide upon the iron bars P. There are half inch slots in the bars at the points R. R.' which are sufficient to lower the delivery tubes into the mouths of the bottles, the latter being held in position by trays (J). The four bottles having been filled from one side, the machine is raised out of the slot and pushed along the bars to the second position, where other bottles are in readiness. By thus playing back and forth, four bottles are filled and measured while another set are being made ready.

It is to be noted that there is nothing automatic about either of these machines as here designed. They are simply intended for accurate and convenient measures when in the hands of careful workmen. At the point of graduation of one of these measures—say D, Fig. 2—a fluidrachm would made a difference on the neck of the measure, of from ¾ to 1 inch. This being the case, even ordinary care must result in a minimum of error.

Nut-Cracking Department.

Automatic Steam-condensing Apparatus for Preparing Distilled Water.

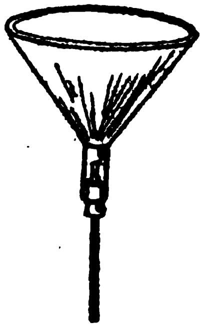


The accompanying sketch illustrates a simple automatic steam-condensing apparatus. To a steam pan, a device for maintaining a constant water level, as per above figure, is attached. The pan is surmounted by a condensing cone surrounded by cold water. A rim around the base of the condensing cone catches the water (condensed), which has egress through a perforation in the rim. Cold water is admitted at the base of cooling cylinder; the warm water flows out at the top, and is conducted through a pipe into the constant level apparatus, which furnishes the pan with warm water. About 3 inches above the level of the boiling water is seen a wire screen, 40 meshes to the square inch. This prevents the boiling water from splashing into the condensing cone and contaminating the product.

A Simple Separating Funnel.

"F. M."—A cheap and easily made separator, suited to your work, is described in the *American Druggist*, February, 1884, p. 25, as follows:

"Take a glass tube 4 or 5 inches long and ¼ of an inch in diameter. Close one end by fusing in the flame of a spirit lamp; ¾ of an inch from this end, file a hole with a rat-tail file moistened with oil of turpentine in which a small quantity of camphor has been dissolved.



"In the small end of a funnel, place a cork through which a hole has been made that will allow the tube to fit tightly. Insert the closed end of the tube in the cork so that the aperture in the side shall be just below the cork. When the contents of the funnel are to be drawn off, push the tube into the funnel until the hole is just above the cork. When the heaviest liquid has passed out, pull the tube down until the hole is just below the cork; this allows the air to enter, and the liquid remaining in the tube to flow out. Then, by pushing the tube into the funnel as before, the remaining liquid can be drawn off."

A Prescription Difficulty of a Different Kind.

A Druggist Sued by a Doctor.—Dr. Liggett feels damaged $20,500 by a refusal to compound his prescription. Upon the application of Dr. Samuel J. Liggett, a practicing physician, Court of Common Pleas No. 4 yesterday issued a capias for the arrest of Charles E. Peoples, druggist, 1260 N. Tenth Street, in a civil suit by the doctor against the druggist for $20,500 damages. In his affidavit in support of the application for a capias, Dr. Liggett says that he graduated from Jefferson College in 1878. Last month he had as patients Mrs. E. Moulden and Miss H. Stanton. He prescribed for Mrs. Moulden:

Potass. bromide..............	2 drachms.
Tr. aconite root..............	12 drops.
Sweet spirit of nitre..........	2 drachms.
Sulphate of morphine.........	1½ grains.
Peppermint water............	½ ounce.
Simple syrup, sufficient to make	3 oz.

Of this the patient was directed to take two teaspoonsful every two hours in water. Mrs. Moulden sent the prescription to Mr. Peoples' drug store, but the clerk refused to compound the prescription, remarking that "it would poison her." When Dr. Liggett called this to the attention of Druggist Peoples, the latter's clerk explained that he had refused to compound the medicine prescribed because "it would be likely to cause an insoluble morphine hydrobromate, which would have the effect of poisoning the patient." Dr. Liggett's affidavit continues by denying that such a result would ensue if the prescription was properly compounded, and charging that Peoples' clerk was ignorant of his duties, and that through his remark the Doctor has lost two of his patients, who have refused and rejected his further services, which would amount to at least $500, and the loss of his reputation as a careful physician, which would amount to at least $20,000.—*Phil. Press*, Feb. 13th, 1890.

Here is a story with a moral. Regardless of the manner in which this complication can be adjusted between the physician and pharmacist concerned, every drug clerk, and in fact every dispensing pharmacist, should learn a lesson from it.

Such open criticism of a physician's prescription in the presence of the patient is unwarranted and inexcusable, especially when based upon conjecture rather than upon an actual knowledge of facts.

If this preparation had been taken according to the directions given, it would have lasted not more than two days.

A mixture, prepared in strict accordance with the above prescription, has stood on our shelves without deposit for one week.

Morphine hydrobromate is described in the National Dispensatory as soluble in twenty-five parts of water, and is therefore not generally considered insoluble.

Another moral which this case conveys exists in some of the criticisms which the pharmaceutical press have bestowed upon it. We do not find any of these writers to have actually made the experiment reported above, which alone would enable them to express an intelligent opinion of the druggist whose action was criticized.

Nomenclature.

When we come to consider it, the rising young pharmacist has a pretty "hard row to hoe." First, he must learn an endless number of things that are so, and then he must learn a good many more that are not so; for example:

Oil of vitriol is not an oil. Copperas is an iron compound, and contains no copper. Salts of lemon has nothing to do with a lemon, but is the extremely poisonous oxalic acid. Soda water contains no soda. Sulphuric ether contains no sulphur. Sugar of lead has nothing to do with sugar, nor has cream of tartar anything to do with cream. Oxygen means the acid generator, but hydrogen is the essential element, and many acids contain no oxygen. German silver contains no silver, and black lead contains no lead. Berberine is usually made from Hydrastis Canadensis. Milk of lime has no milk. Quick silver is pure mercury.

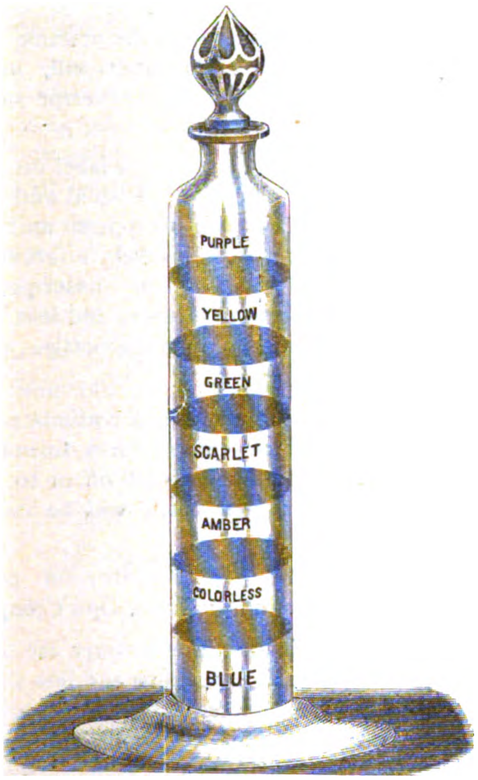
Another form of nomenclature which must serve to confuse medical and pharmaceutical students, and which is destined to prove a pitfall to all of us, comes from the established and growing custom of calling preparations after the name of the inventor or introducer. For instance, we have Fowler's solution, Donovan's solution, Lugol's solution, Labarraque's solution, Magendie's solution, Monsel's solution, Burnett's solution, Clemen's solution, Dover's powder, Gregory's powder, James' powder, Tully's power, and many others which should awaken us to the danger of using such names, instead of titles which indicate the chief constituents of the preparations.

Window Display.

"A. O. G."—As you seem to have exhausted the orthodox designs, we might suggest that passers-by are generally attracted by simple pharmaceutical processes shown in automatic operation, for example:

The distillation of colored water with glass retort or Florence flask and glass Liebig's condenser, or even an ordinary glass percolator in operation so as to clearly show the principle involved.

A very attractive show bottle for window or counter display was described in the June, 1889 issue of the BULLETIN and illustrated by the following sketch:



A handsome and permanent bottle of this nature, but differing somewhat in the arrangement of the liquids and colors, has stood on the writer's desk for several months, and contains layers of liquids as follows (commencing with number one at the bottom of the bottle).

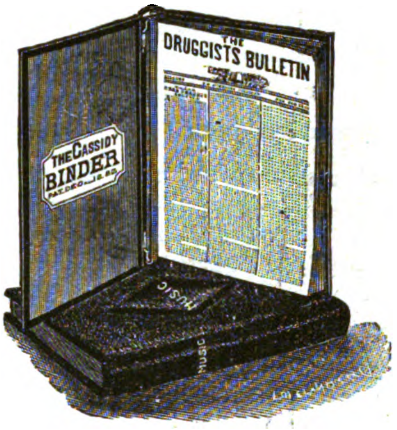
1. *Chloroform*, green—colored by macerating with grass.
2. *Glycerin*, colorless.
3. *Castor oil*, red—colored with alkanet root or alkannin.
4. *Alcohol diluted with water to sp. gr.* 0935, colorless.
5. *Cod liver oil*, natural yellow color.
6. *Alcohol*, U. S. P., purple or blue, with anilin.

The colors suggested should be employed in quantities only sufficient to impart a pronounced tint to the fluids; too deep colors look dead, and detract from the brilliancy of the combination.

Binders for Druggists' Bulletin.

W. F.—For the benefit of subscribers to the DRUGGISTS BULLETIN who desire to preserve their copies for permanent reference, we offer the binder represented in the accompanying sketch; it is cloth, with Russia-leather back, lettered in gilt, and has the appearance of a richly bound book. A simple arrangement whereby any particular number can be conveniently taken from and returned to its place without disturbing the rest of the volume, is an especially commendable feature.

These binders will be delivered, post-paid, upon receipt of $1.00.



Weighing Fluids.

A correspondent suggests that in weighing fluids into a mixture, the smallest quantity ordered should be put in the bottle first, then the next larger quantity, and so on. He gives as a reason for this that the delicacy of the scale diminishes with the increase in weight, and that the medicines ordered in small quantities are generally most powerful, and need to be dispensed with the greatest degree of accuracy.

When we have occasion to mix fluids by weight, we prefer to weigh each separately in a suitable vessel, and then transfer them to the container, thus avoiding the danger of spoiling the whole mixture by letting something "slip" and getting in an excess of any one ingredient.

Acetate of Lead Solution.

R.—Commercial acetate of lead, when exposed to the air, is liable to lose some of its acetic acid as the latter is not very tenaciously combined. With the elimination of the acid, there is formed either a basic acetate or, in consequence of the presence of carbonic acid gas in the air, some carbonate of lead. The turbidity in a solution of such a salt in water, can readily be dispelled by adding acetic acid, cautiously avoiding any excess.

Solubility of Iron Pyrophosphate.

F. L. R.—This correspondent complains that he experiences difficulty in dissolving iron pyrophosphate scales in water; that upon the addition of the latter the scales form into a gummy mass which is slowly soluble.

We infer from this statement that the salt was reduced to powder in a mortar and the water gradually added, hence the difficulty. Scaled iron salts, especially pyrophosphate and phosphate, are readily dissolved in water (warm if consistent) by adding the scales gradually to a considerable volume of the fluid, stirring briskly until solution is effected.

Iron pyrophosphate appears to be more soluble in a solution of itself than in plain water.

Precautionary Notes for Dispensing Pharmacists.

Intelligent people often "think of one thing and inadvertently speak of another." Pharmacists will do well, therefore, to acquire a habit of repeating each order interrogatively, and, before proceeding to fill the requisition getting a clearly expressed assent from the customer, that the wrong article may not be dispensed.

Too many precautionary measures, and too much vigilance, can not be exercised to prevent handing prescriptions to the wrong person when several are waiting. This is a very natural mistake, and is especially dangerous when the prescriptions are simply labelled "use as directed," as there is nothing to arouse the suspicion of the customer.

The dispenser should always receive prescriptions with becoming dignity and assurance, and proceed to compound them in a prompt serious manner, bearing in mind that his movements are often closely watched by the customer, who may have just left the sick-chamber or bed-side of some cherished one whose life is in the balance.

Pharmacists should invariably calculate the dose and consider the compatability of the ingredients of a prescription before compounding it.

Don't assume that the dose of an alkaloid is safe simply because it amounts to only a fraction of a grain; we remember well a case of this kind in which a bright young pharmacist came to grief by dispensing a mixture containing one-eighth of a grain of atropine in each dose; similar delinquency might prove serious in the case of aconitine, veratrine, colchicine, etc.

Always review your work and the original prescription, being especially certain that the directions on the label correspond with those on the original, before delivering the mixture to the messenger.

In numbering prescriptions, be on the alert to avoid duplicating the number of the last prescription instead of numbering consecutively; such an error may, in case of a "renewal," lead to serious consequences, particularly if one prescription happens to be a four ounce aconite liniment, and the other a four ounce mixture for internal use, both having a similar appearance.

Never let a package leave the store without a neat distinct label upon it, whether its contents be inoccuous or poisonous.

Every package should be labelled at once, particularly in case of prescriptions, as the practice af allowing unlabelled parcels to remain about will, inevitably, cause doubt, and lead to some grave error sooner or later.

It is a good rule to place a poison label on all poisons not prescribed by a physician. If solid and wrapped in paper, it should have two wrappers, and *both* be labelled poison. When a poison label is affixed to a bottle, it should be pasted above the descriptive label where it will be most likely to be seen, and less likely to be covered by the hand in holding the bottle.

Never paste a new label over an old one when a prescription is "repeated," or when a bottle is filled with a preparation differing from that which it formerly contained; the upper label is likely to fall off or to be accidentally removed, when your bottle will be incorrectly labelled.

Always keep in mind the possibility of confusing "Tincture Opii Camph." and "Tinct. Opii Comp."

It is a good plan to avoid unnecessary use of Latin —plain English is quite as expressive and less likely to be misinterpreted by associates. This is especially applicable to dispensers who are not good Latin scholars

Avoid unnecessary abbreviation—it takes but little additional time and effort to write out the full names, and many ambiguities will thus be averted.

Keep and use a set of metric weights; a certain amount of danger always attends the conversion of metric prescriptions into apothecary's weights and measures.

Don't carry on conversation while putting up prescriptions.

The common observer is apt to judge the workmanship of the dispenser by the appearance of the parcel; and although the prescription proper may have been ever so skilfully compounded, a poorly written label, untrimmed, or pasted crookedly on the bottle, will often give the impression that a workman who is so imperfect in the rudiments of his profession is apt to be equally so in the execution of its technicalities.

Nothing impresses a patient or physician more unfavorably than to receive a box of powders folded in irregular shapes and sizes.

"When you don't know just what to do, do nothing" —until you look up the necessary information.

Never criticise a physician's prescription, by word or action, in the presence of the patient. If you discover what you consider an error, make some excuse to delay its delivery, and in the meantime refer the prescription to the physician for correct instructions.

Some system for checking ingredients as put into a prescription should be adopted, and invariably used, to prevent duplication or omission if you happen to be called away suddenly.

It is a commendable custom to powder all salts and mix or dissolve with a portion of the liquid, in a mortar, before putting them in a bottle. Some dispensers form a habit of dumping crystals or powders into a bottle of liquid, taking it for granted that they will dissolve.

It is never a good plan to keep the morphine and quinine bottles near each other, and some special precautions should be taken to prevent confusion of these commonly-called-for substances.

Memorizing formulas is a dangerous practice. It is always safer to consult the authorities.

It is usually poor policy to voluntarily undertake to destroy a customer's confidence in the remedy that he calls for.

Correspondence.

PARIS LETTER.

Panbotano, a New Specific for Paludal Fever—Testimony Corroborating Brown-Sequard's Theories as to the Stimulant Effect of Testicular Fluid—A Safe and Effective Formula for the Antiseptic Use of Corrosive Sublimate—Unalterable Syrup of Iodide of Iron—Pills of Permanganate of Potash—Insolubility of Carbonate of Lithia Pills—India-Rubber Plasters—Artificial Musk—Iodinated Wine—Encroachments of Grocers and Unlicensed Venders in the Field of Pharmacy—How Pancreatin Should be Prescribed—Popular Sale of Dried Herbs for Teas.

Panbotano, a Mexican plant, has been knocking at the doors of the French Academy of Medicine, and crying loudly for admission as "a new specific for paludal fever." The drug seems to be one of the many lately offered which have some qualities in common with other drugs which do the work better. However this may be, Prof. Dujardin-Beaumetz has directed attention to Panbotano by presenting to the Academy an extensive paper on the subject, prepared by Dr. Valude. The latter has found plenty of tannin, "bitter substances" and fatty matters in the bark, but its alkaloids and glucosides have not yet become materialized. The medicament is prepared by macerating 70 grammes of bruised bark in a quart of water, and boiling the mixture down to one pint. The patient is expected to swallow this pint of stuff within the twenty-four hours, and it is credibly stated that sick Mexicans succeed in doing this. Dr. Valude says: "In eight of my cases, one or two doses was sufficient to cause the disappearance of well characterized tertian fevers."

As was to be expected, a reaction has taken place in the minds of those who formed too hasty opinions concerning the value of M. Brown-Séquard's experiments with testicular fluid. Prof. Richter, in an able article in the *Moniteur Scientifique*, writes that "people are guilty of an impropriety and an injustice in treating too lightly the assertions made by a man of Dr. Brown-Séquard's ability." At the same time Dr. Mairet, an eminent scientific investigator of Montpellier, relates the results of his trials of injections of testicular fluid practiced on insane persons, who were "in a condition of moral and physical stupor." M. Mairet used the glands of dogs and rabbits. He gave the injections at varying intervals during a period of from six to fourteen days. The patients recovered their power of speech and locomotion, and an increased activity of all the functions was visible. So, it appears, we have by no means heard the last word concerning M. Brown-Séquard's suggestions.

The Académie de Médicine, after considering the matter for a year or more, has at last adopted a resolution permitting pharmacists to dispense corrosive sublimate for the use of midwives. The drug must be put up in powders of 25 centigrammes each, labeled "Sublimate: Poison; 25 centigrammes to the litre of water." They are also permitted to sell to midwives a corrosive sublimate ointment (1 to 1,000) made with vaselin. While the matter was under discussion, Prof. Laborde said that certain substances added to sublimate would lessen its toxic power without injuring it as an antiseptic; so he proposed a formula as follows:

℞	Bichloride of mercury	25 centigrammes.
	Chloride of sodium	1 gramme.
	Sulphate of copper	1 gramme.
	Tartaric acid	50 centigrammes.
	Soluble blue	1 centigramme.
	Distilled water	10 grammes.
	Glycerin	10 grammes.

Pharmacists say that this is a safe and very effectual mixture, but the Academy finally adopted the one which was first proposed by the eminent obstetrician, Dr. Budin.

Unalterable syrup of iodide of iron is best prepared, according to a statement by M. Linde, by making it with what he calls "fruit sugar." This article seems to be simply a syrup of cane sugar in which the saccharose has been interverted by means of carbonic acid. The taste is said to be more agreeable than that of simple syrup, while it remains for an indefinite time unchanged when used in making syrup of the iodide of iron.

How to make pills of permanganate of potash is a problem which several pharmacists have lately attempted to solve here, but none of them has succeeded in making a satisfactory preparation. The doctors continue, however, to prescribe the drug, wholly oblivious, apparently, that permanganate pills in the present state of pharmaceutical art are regarded as impossibilities. A recent prescription calls for pills containing 10 centigrammes of the drug, three pills to be given daily. The dose seems somewhat large.

Complaint has been made that the carbonate of lithia pills lately dispensed are insoluble. M. Carles writes to the *Jour. de Méd. de Bordeaux*, that the trouble is best remedied by triturating the lithia with an equal quantity of white sugar or of carbonate of soda, and he asks physicians to prescribe the article in conjunction with one or the other of these substances.

Formulæ for "India-rubber plasters" (founded upon "Unna's topical muslins") are given as follows in the *Jour. d' Alsace-Lorraine*: Res. damar, 15 grammes; benzoinated suet, 25 grammes; lanolin, 15 grammes; and caoutchouc solution (5 grammes India-rubber in 25 grammes of benzin), 30 grammes. The damar is first melted and the suet added; this is strained, and the benzin and rubber mixture introduced, when the whole is placed on a water-bath to evaporate the benzin. The ointment is completed by adding 20 grammes of oxide of zinc finely macerated in an equal quantity of glycerin. The plaster should be spread upon muslin in a layer of the thickness of a playing-card. Iodoform plasters are made in a similar way, using: Suet, 30 grammes; lanolin, 20 grammes; glycerin, 10 grammes. The iodoform (5 grammes) should be added to the glycerin before mixing with the other materials. Mercury plaster is made with: Damar, 20 grammes; suet, 34 grammes; rubber solution, 36 grammes. The mercury (20 grammes) should be mixed with 20 grammes of lanolin before adding to the other ingredients.

Artificial musk seems to be gradually coming into use, although the price still remains at $600 per kilogramme. In alcoholic solution but little odor is disengaged, but if a drop of water be added, the perfume becomes extremely powerful. Acids diminish the power of odor, while alkalies largely increase it. The statement has been made that alcoholic solutions of artificial musk undergo alterations which diminish its fragrance, but the report is not yet fully confirmed.

Iodinated wine, according to a statement lately published in the *Bull. Gén. de Thérap.*, makes a better preparation when manufactured from wine from which the tannin has been removed by the use of gelatin, than when the tannin is retained, as has usually been the case, with the mistaken notion that tannic acid serves to mask the taste of the iodine. M. Barnouvin finds also that iodinated wine freed from tannin gives quite as satisfactory results as the old mixture. He uses 1 gramme of iodine to 1 litre of water. Several members of the Paris faculty confirm the results obtained by the writer.

The pharmaceutical papers continue to complain of the encroachments of grocers and unlicensed vendors, which do not seem to disappear despite the fines constantly imposed. The *Bull. Comm.* attempts to console the brethren by showing that pharmacists have suffered from these causes from time immemorial. It seems that as long ago as 1678 a Paris pharmacist published a complaint againt unlicensed druggists. His remarks took poetical form. A free translation of one of his stanzas would read somewhat as follows:

"Old Fuller sells all sorts of men,
Pretending that 'tis charity,
Cures all except the deaf—and then
Takes cash with great hilarity."
(But his balm is costly).

Complaints were also made in the old days, of doctors who made drugs in the country villages and sent them to Paris to be sold. One doctor is described as "wickedly sending 400 to 500 pounds of drugs to Paris every year, to be sold by vendors." It may be that this kind of "poetry," etc., will not console pharmacists for the loss of business which rightly belongs to them, but they certainly have no reason to complain of lack of trade during last season, when influenza was in the ascendant.

Physicians are prescribing pancreatin quite largely of late, both with and without soda. Some are not only giving it at the beginning of a meal, but two hours afterward, with pepsin. Theoretically this may be thought an unwise measure, but doctors say they get good results from using it in this way. It is said that when gastric distension takes place two hours after eating, pancreatin is indicated, on the supposition that the gases often arise from pancreatic indigestion. Prof. Huchard has lately done much to make pancreatin popular by giving it successfully in several obstinate cases of dyspepsia.

Dried herbs, compressed, and packed in paper, are on sale as novelties, and have achieved some popularity, for a variety of herb teas are largely used here. To accommodate poor people, very small packages are put up and covered with tin-foil. They are only about one inch square, and are supposed to contain just enough of the herb to make one infusion.

LONDON LETTER.

The Pharmaceutical Phœnix: Rebirth and Sudden Death. —Evening Meeting of the Pharmaceutical Society— Spirit of Nitrous Ether: New Method of Estimation —Dr. Squibb Criticized—A New Emulsifying Agent —A Contribution to the Pharmacy of Betel Oil.

The Pharmacy Bill is a "joy for ever"—at least to the energetic President of the Pharmaceutical Society—whether it be a "thing of beauty" must remain doubtful. If regularity of feature and appearance be unfailing indications of beauty (as some believe) then has the Pharmacy Bill every claim to be considered beautiful. It has a striking resemblance to some sickly plants we have endeavored to mature into blossom. It throws up yearly its modest leaves and stem, and all seems to promise well, when suddenly the cold blasts of criticism and opposition shrivel up its tender foliage and it withers down to the rhizome once again.

This year the framers of the Bill imported certain innovations into it with the design, doubtless, of rendering it more acceptable to the trade and therefore more popular.

It was baited with an approximation to "equality of membership" in the Society, by which every person who had obtained a junior certificate would be eligible for election as a "Member of the Pharmaceutical Society"—an honor (?) that at present appertains only to the successful major examinee.

The bait did not take, however, but seemed to be the source of much suspicion and protest, and the consequence was, that on attempting to introduce into the House of Commons, the opposition to the Bill on the part of members of the trade was so extensive that it was deemed advisable to allow the scheme to fall through for the present.

In the succeeding meeting of the Council every member took occasion to express his regret at the untimely defeat of the measure, and some even considered that it had been abandoned too preciptately. However, it has disappeared again, this time with more than usual suddenness. It is whispered in some quarters that the whole thing was a "plant" arranged with an eye to the elections for the Council in May, but of course nothing can be said on this point with any approach to certainty save this: If it were a "plant" and designed with the purpose hinted at, there are many indications that it was a failure—time will show.

The March evening meeting of the Society was unusually well attended, and the proceedings were full of interest. Even such a "chestnut" as Spirit of Nitrous Ether excited quite an animated discussion—due in a large measure to the exposition of the claims of two rival methods of estimation by their authors.

Dr. J. C. West commenced a paper on "The Estimation of Ethyl Nitrite in Spirit of Nitrous Ether," with these words: "So many processes have been devised for determining the strength of spirit of nitrous ether, that an apology almost seems necessary for the introduction of another. If, however, we criticise from the pharmacist's point of view, any or all of these processes, I think we shall find that there are none without defects, some requiring special apparatus, others giving only roughly approximate results."

This certainly sweeping condemnation of existing methods of estimating $C_2H_5NO_2$ in Sp. Æth. Nit., drew down upon its author a vigorous protest, which one cannot help thinking would have better suited the defender of a patent process than a scientist. Firstly, however, should come the description of Dr. Thesh's *modus proscendi;* it is based upon the estimation of the iodine liberated by the interaction of nitrous and hydriodic acids. The reaction is arranged to take place in a vessel from which practically all oxygen has been displaced by coal gas, and which was previously filled, three parts with water containing starch mucilage, a known quantity of potassium iodide, and dilute sulphuric acid. Through a hole in the (preferably India-rubber) stopper, the measured volume of spirit to be estimated is introduced by a long pipette which delivers it at the bottom of the water (in order to avoid loss by evaporation). The nozzle of a burette containing standard hyposulphite is then introduced through the hole, and the solution run in till the contents of the flask are decolorized. The number of cubic centimetres of standard solution multiplied by 0.15, gives the number of grammes of ethyl nitrite in 100 cubic centimetres of the spirit.

Comparison of this process with the results given by Allen's nitrometer, using pure ethyl nitrite, convinced the author that there can be no doubt as to its accuracy, while it is also sufficiently simple and rapid to be of practical use to the pharmacist.

Mr. T. S. Dymond mentioned in the course of a "Review of Recent Work on Spirit of Nitrous Ether and Ethyl Nitrite," that the process of Dr. Thresh resembled that proposed by Prof. Dunstan and himself in 1889, which differed only by using a vacuous flask from which air had been expelled by ebullition of the contents. From the remarks of certain others who took part in the discussion, it appeared, however, that the flask was rather inclined to burst in the process—which must be regarded as a drawback.

Mr. Dymond also somewhat severely criticised a paper of Dr. E. R. Squibb on "Spirit of Nitrous Ether," in the last number (4 of vol. iii.) of *Ephemeris*. He characterized the experiments of Dr. Squibb as "valueless;" and the proposition of the latter, that indirect measurement of nitrous oxide by the mercury it displaces would be available as a rough estimation for pharmacists, the critic said "may be dismissed as unworthy of consideration." Further, Dr. Squibb's method of finding the specific gravity of ethyl nitrite by calculation was impaled, and his objections to the introduction of a solution of pure ethyl nitrite, one by one pulverized.

M. H. Collier, of Guy's Hospital, read an interesting paper on "Resin Soap as an Emulsifying Agent." He prepared the soap by boiling together for two hours 1,800 grains of resin and 300 grains of caustic soda with a pint of distilled water. Upon cooling, the soap separates as a yellow pasty mass, which is drained, pressed dried on a water bath, and powdered. The product is soluble in water and in rectified spirit; analysis showed that it contained about 84 per cent. of resin. Mercury and chloroform cou'd be readily and apparently permanently emulsified by a solution of the soap, and oils were more easily emulsified by it than by sapo durus or sapo mollis, while it also possessed the great advantage of never gelatinizing.

For emulsifying fixed oils, Mr. Collier gave the general formula:

℞	Oil	1 fluidounce.
	Resin soap	10 grains.
	Water	1 fluidounce.

Dissolve the soap in the water and shake with the oil.

Cod-liver oil could be emulsified by half this proportion of resin soap, though after a time separation ensues. For the emulsification of volatile oils, the following general formula (giving a product of the same strength as Vapor Olei Pini Syrestris, B. P.) was recommended:

℞	Oil	2 fluidrachms.
	Resin soap	10 grains.
	Water.........enough to make	3 fluidounces.

Dissolve the soap in the water and shake with the oil.

These emulsions could be mixed readily with water without separation. For preparing an emulsion of thymol, which can also be mixed with water, the following proportions are suitable:

℞	Thymol	18 grammes.
	Rectified spirit	3 fluidrachms.
	Resin soap	20 grains.
	Water.........enough to make	3 fluidounces.

Dissolve the thymol and soap in the spirit, add the water and shake together.

One drachm of oleum santali or copaibæ are emulsified by 10 grammes of resin soap and a fluidounce of water.

Mr. D. S. Kemp, late of Bombay, read some notes on "Oil of Betel Leaves," distilled by himself from fresh leaves of a mixed quality, collected in June, 1885. He obtained two oils, viz., 3 fluidounces of a heavy oil, specific gravity 1.039 (uncorr.), and 2½ fluidrachms of a light oil. The results of other investigators (Mr. Prebble in Bombay, and Eykman in Java), who obtained no heavy oil at all, pointed, Mr. Kemp considers, to the influence of the season upon the leaves; his were collected in June (hottest weather and commencement of the rainy season), and those of the other workers in the cold dry season.

The light oil was found by Eykman to contain a phenol $C_6H_4OH(1)C_3H_5(4)$ (para-allyl-phenol), which he called chavicol. This was found to be five times stronger as an antiseptic than carbolic acid, and twice as strong as eugenol.

Dry leaves grown in Siam yielded a ½ per cent. of a heavy oil (specific gravity 1.024), containing isoeugenol or "betol-phenol." Both the oils contained a sesqui-terpin; and the light oil in addition, a terpin, also probably cymol, cincol, and menthol.

Since it is very difficult to believe that the oil of leaves gathered in the same districts at different times of the year should vary so remarkably in composition—containing a powerful antiseptic in June, and none at all but a totally different body in January—it may be surmised that some of the chemists were working on leaves other than betel, or on adulterated specimens. There are certain considerations which render the first supposition possible, but further investigation is needed before the problem is altogether and definitely settled.

PHARMACEUTICAL NEWS FROM GERMANY.

With regard to the International Medical Congress to be held this year, during August, in Berlin, arrangements are already being made. The section of Pharmacology will be presided over by Prof. Liebreich, and there are sure to be many matters of interest for pharmaceutical readers. In connection therewith, there is always an exhibition of a most attractive and important nature, which is a centre of interest for scientists from all parts of the civilized world.

The Exhibition will be opened at 11 A.M. on August 2d, and closed on the 11th of the same month. The exhibits will be divided into classes as follows:

1. New or recently improved scientific instruments and apparatus for biological and medicinal purposes, including apparatus for photography and spectrum analysis as far as they are applied to medicine.
2. New pharmacologico-chemical substances and preparations.
3. The latest pharmaceutical substances and preparations.
4. The most recent food preparations.
5. New or particularly perfected operating instruments for internal and external medicine, including electro-therapy.
6. New plans and models of hospitals, convalescent homes, disinfecting and general bath establishments.
7. New contrivances for sick-nursing, including transport apparatus, and baths.
8. Latest hygienic apparatus.
9. New medico-statistical and chartographical representations.
10. Scientific preparations and models from the department of Medicine.
11. Medical instructing arrangements.
12. Literature.

Applications for space, marked "Ausetellungsangelegenheit" ("In the Exhibition") will be received up to the 15th of May, 1890, at the Bureau de Congress (Dr. Lassar, Berlin N. W., Karlstrasse 19). For every square metre of ground or table service, 10 M. (about 8s. 6d.) will be charged; and for every square metre of wall space, 6 M. Packing and unpacking will be done for foreigners cost-free, though no responsibility is taken. The necessary steps have already been taken to enable foreigners to send in their goods to the Exhibition duty-free.

Up to the present it was uncertain where and when the Apotheker Verein would meet this year, but the place, it is now definitely decided, shall be the Rostock, and the time the 26th or 27th August. The Verein consists of a number of departments called "Bezirke," and these were previously subdivided into sub-branches known as "Kreise," each of which had its own executive or honorary officers. It is announced in the new draft of regulations just issued, that the Verein shall consist solely of "Bezirke," with whose delegates voting shall exclusively rest. By this arrangement it is believed a more National expression of opinion will be secured.

Festivities were in vogue on the 11th inst. in Berlin when the Chemical Society fêted Prof. Dr. August Kékule, the immortal enunciator of the benzin ring hypothesis, which it appears he announced 25 years ago, when he was a professor of chemistry in the Ghent University. There was of course an excellent dinner, the *menu* of which was itself dominated with the "benzin" spirit. Thus it commenced with "aromatic" soup, and ended with "caffeine and evolution of nicotine vapors." We might regret for the sake of pure science the fact that nicotine vapors were never discovered in tobacco smoke. The other courses of the repast were named under the influence of the same heavy kind of wit. To Prof. Bäyer, of Munich, one of the oldest scholars of Kékule, who has made his name famous by its association with processes for the production of synthetical indigo, fell the honor of making the speech, in which he sketched the life of the subject of the celebration. Besides Prof. Bäyer there were a number of scientists present, and representatives of foreign scientific societies. A letter was read from the Emperor expressing regret that he was unable to be present, but he granted Prof. Kékule an audience at Court.

Few diseases have attracted so much attention as cholera; it may at least boast of being the subject of Governmental consideration and of special commissions, as well as of having been about as destructive as any disease of modern times. However, it has at last been tracked out, and its origin described as a species of the omnipresent and almost omnipotent microbe, which possesses the power of splitting up albuminoids with the formation of "toxine," a poison which is the direct cause of the inflammatory mischief. Of course this bacterium has been, so to speak, arrested, and made to reveal its life's history under the microscope in the laboratory of the scientist, who thus hopes to discover its weaknesses, and armed with that knowledge to nip in the bud its felonious little plans when it gets into the human intestine. Among other things which has in this manner been discovered, are two of preëminent importance viz.: (1) That under the anaërobic conditions of the intestine the bacterium is more active in form of "toxine" than under those (aërobic) of the laboratory: (2) That at the same time the bacterium in the first named circumstances is less resistant to external agents than in the second. Particularly, it appears, that in the intestine even mere traces of acid are sufficient to destroy its vitality. Reasoning from these data, Prof. Ferd. Hueppe, director of the Hygienic Institute of the Charles-Ferdinand University at Prague, concluded that a scientific treatment of cholera would concern itself with the annihilation of the micro-organic life which appears to be its ultimate original source; further, as the disease, or at least its source, is localized in the intestine, it is evidently desirable to use a substance as microbe destroyer, which will not display its antiseptic powers until it reaches the seat of the disease. Salol was finally selected from several other compounds which fill the above named conditions, among other reasons because it had been found valuable in similar cases by other investigators. Dr. Hueppe says that his cases (mostly in India) are not yet sufficiently numerous to enable him to speak with certainty, but such as have been treated have shown such uncommonly favorable results that he believes in the method, and that salol ought to be, in the future, connected with the therapy of cholera; he also points out, as a practical outcome of the important facts mentioned above, that the cholera bacteria are more easily destroyed in the quite fresh stools of patients than under any other conditions, so that disinfection of choleraic dejections should be thoroughly and completely effected under aërobic conditions—before the bacteria become more resistent to antiseptic measures.

Among earlier synthetical antifebrile remedies, cresotinate of sodium attracted some little attention, but eventually, being found unreliable in action, was abandoned. The transforming spear of the modern Ithuriel —chemistry—did at length, however, come into contact with cresotinate of sodium, and straightway this apparently simple body stood revealed as a mixture of three isomeric compounds, two of which are dangerous therapeutically, or at the least, inert.

Para-cresotinate of sodium, which is applicable and useful in medicine, has the constitution $C_6H_3.CH_3.OH$ Co_2Na; it is a fine crystalline powder, with a distinct bitter but not disagreeable taste. It will dissolve in 24 parts of warm water, and remains in solution on cooling. Given to dogs, it was well borne even in large doses, a part of it passing unchanged through the organism, so that the urine is colored violet by ferric chloride.

Prof. Loech took about a drachm of the salt himself without any appreciable effect except perspiration; digestion and temperature remained normal. After the harmlessness of even large doses had been established, clinical trials were made on 32 children suffering from various affections. The results led to the conclusion that sodium para-cresotinate is an active antipyretic. Even a single dose (of 15 grains) given to a child of twelve produced a maximum abatement of 1.5° C. The compound was prescribed in doses of ⅙–⅓ grain every second hour in mixture with half-drop doses of tincture of opium, syrup, and a little brandy.

Prof. Demme considers that the special field of usefulness for para-cresotinates is acute rheumatism of the joints. This author believes that they are more reliable than the salicylates, while at the same time they do not produce the congestive symptoms or digestive disturbances which follow the administration of the latter.

There seems to be a reasonable hope that, at least in this country, some of the now dominant spirit of research will be devoted to examining the claims of such remedies as have been already introduced. There has, at times, seemed to be a real danger that the desirability of doing this would be overlooked in the almost frantic search after new medicaments, so that modern medical men would find themselves with a host of substances in their Materia Medica of which they know comparatively nothing.

Dr. Schirren supplies a second report on "aristol" (*v.* DRUGGISTS' BULLETIN, Feb., p. 52), in which he confirms to some extent the original statements, finding it useful in psoriasis. Prof. Gadde agrees with other authors in extolling the virtues of "ichthyol" in all diseases dependent on, or associated with, abnormalities of circulation. Internally, in aqueous solution, or in pill form, he gave it in chronic rheumatism and nephritis, while in one case of diabetes it reduced the amount of excreted sugar in one month from 7.1 to 0.5 per cent. Externally, in combination with lanolin, he recommends ichthyol in all skin diseases. Dr. Freund describes the favorable results of its application in the diseases of women. Dr. Heinz reports on "exalgin," the new analgesic; in doses of from 6 to 8 grains, he found that it possessed similar properties as a pain reliever to acetanilid and phenacetin, while it did not seem to him to be equal to analgesin as an analgesic. Lastly, Dr. Manasse recommends the use of "terpin hydrate" in whooping-cough, especially of children. He used it in 41 cases, including some very young patients, and found it, in doses of 7 to 15 grains, t. d., capable of lessening the number of attacks of coughing, and also their severity.

Your readers are aware that the German pharmacist is subject to official inspection at least once in three years; if the inspectors find anything, any arrangement of the pharmacy or of the business, which is not consistent with their interpretation of the law, they report the misdemeanor at head-quarters, when a document is sent to the "apotheker" calling his attention to the offense, and to the penalty which attaches to it. Not long since an apotheker in Elberfeld was the recipient of such a document, which seems justly or unjustly to have excited his indignation. He protested against the contents of the admonishing statement in a letter to the *Pharmaceutische Zeitung*, which that journal gave publicity to. On this, the Government officials of Dusseldorf put their heads together and produced a wonderful decree, in which they expressed surprise at the improper conduct of the pharmacist in venturing to criticise an official document, and called the attention of the trade to the fact that if they had any complaints to make of this kind they should be carried to the proper quarters. Paraphrased into plain German and translated into English, this decree practically told the pharmacist of Dusseldorf that he was an impudent fellow, and in company with the rest of his insignificant brethren in trade, must learn to "shut up."

Against this decree the *Pharmaceutische Zeitung* in turn protested, saying: "It is not in the power of a 'Bezirks' Government to take away from a definite class of citizens their acknowledged rights. It stands in the Prussian Constitution that 'every Prussian has the right, orally or in writing, to publish abroad his opinion.' It may certainly be sometimes more agreeable to the Government that nothing should openly oppose its power, but, happily, we no longer live in the patriarchal ages when 'subjects' (Unterthanen) were simply forbidden to publish anything in the papers."

The affiair, however, did not end here. At the instigation of the Dusseldorf "Bezirks" Governmental department, the machinery of the police was set working, and an official of the Government walked into the office of the journal named, and demanded the confiscation of all the copies of February 22d, in which the above bold statements appeared. So much for a despotic Imperial Government! What would the citizens of America, think of such a high handed method of procedure?

NEW YORK LETTER.

APRIL 3d, 1890.

The reaction from the tremendous amount of business done in drug circles during the month of February, is very marked, business being confined strictly within jobbing limits.

Judging from the complaints of leading jobbing druggists, these limits must be very narrow and unprofitable. While even druggists would dread to see a return of *la grippe*, or any other serious epidemic, because their own comfort and that of their families would be endangered, they are certainly hoping some influence may be brought to bear to enlarge somewhat the limits of business by which they are at the present time controlled. I presume there has been no time for years, when the jobbing drug business has been so depressed as during the month of March. Nevertheless, strange as it may seem, we hear no rumors, in this section at least, of any of our jobbing druggists going out of business. As I write, there is lying before me a notice of a Western jobbing house having sold out to a livelier competitor; but beyond this, all hands seem content to struggle along in the hope of better times.

In the face of such facts, and almost an absence of demand, your readers will hardly look for any very interesting trade reports. Transactions have been but few and limited, and none of very great importance.

Opium.—All the efforts of those who control most of the stock, in this country at least, have failed to sustain it in price. Neither have the reports received from the country of production (favorable as they seem to higher prices), had any effect in that direction. The article has been absolutely neglected. Added to the dullness of trade, without question the doubt that exists in the minds of buyers of this costly drug as to the outcome of the tariff bill that is before Congress, has had a deterring effect, as should that bill become a law, and unadulterated opium placed on the free list, a prompt decline must, of course, at once follow—as after the first of July proximo, when in all probability the law would become operative, a decline in price of $1.00 per pound (the present duty) would be but natural.

Quinine.—This article has continued to decline in price, in spite of the fact that demand has continued active; there seems to be unlimited supplies. The recent sales of bark in Amsterdam, were not important, beyond the fact that most offered was withdrawn, although the full prices paid at the preceding sales were bid; thus showing a greater degree of confidence on the part of the dealers in bark, which would indicate that unless manufacturers of quinine desire to manufacture at a loss, they must, in the near future, advance their valuations. The receipts of foreign quinine during the month, have been very large, and for the entire quarter, as compared with the corresponding period of last year, show that from 25 to 50 per cent. more has been brought into this country than during that period.

Jamaica Ginger.—The new crop is now commencing to arrive freely. In quality, there is nothing to boast of; the price, however, is fully sustained, and there seems no prospect of any decline. On the contrary, most of those who seem to be in a position to know, feel a degree of confidence that, as the season advances, very much higher prices will have to be paid.

Celery Seed.—This seed, so largely used by pickle manufacturers, has attracted considerable attention during the past week or two. It is found that the available supplies are not equal to the anticipated demand, and as the new crop does not reach us here before the pickling season is about past, it would seem advisable for those who require stock to seek early, otherwise they will have to pay greatly enhanced prices.

Jalap.—No arrivals of this root have taken place since my last letter. The market really seems bare, and the demand is active. A further advance has taken place.

Citric Acid.—This article, so long neglected, seems now, to be again attracting attention. Foreign manufacturers have advanced their prices fully two cents per lb., and no very abundant supplies can be bought even at these prices. Our domestic manufacturers have not yet changed their prices; but it possibly is reasonable to assume that as soon as warm weather sets in, and the demand becomes active, they will take advantage of the position, and obtain better valuations for their product.

Camphor has fully sustained itself at the advance recently reported. More crude material has arrived, but only in season to meet active requirements, so that it need not be anticipated that lower prices will be realized during the present season.

Cream of Tartar and Tartaric Acid.—Owing to the war amongst manufacturers, a sudden and very heavy decline in the prices of these articles occurred during the past month. It should be said, however, that none of the manufacturers will accept unlimited orders at present prices They will only sell certain limited amounts to one particular customer, and the probabilities are that as soon as the differences between the manufacturers can be settled, old prices will again maintain, if, indeed, they are not enhanced.

Golden Seal and Mandrake Roots.—We are becoming more and more convinced that a very much larger stock of both these roots is being held in the principal markets than was at first supposed. Large sales have been made, but without at all affecting the market by way of raising prices. Mandrake root can be bought at from 3½ to 3¾ cents per lb. in almost any quantity in the New York market, and golden seal has sold during the past month as low as 25 cents, 26 cents having been accepted only yesterday for a round parcel. Gatherers of these two roots will find the business a very unprofitable one for this year, and it would be wise in them to turn their attention to something that will better assure a proper income for their labor.

Sarsaparilla.—The Mexican variety has become very scarce in the market, and the stock concentrated. An advance in value of 2 cents per lb. has already taken place, and unless fresh arrivals should come into port, higher prices may be looked for. The season for the principal consumption of this root is now only approaching, and unless we should receive fresh supplies, a scarcity will be found. Of the Honduras variety, there is perhaps a heavier stock, but nothing to be compared with what is usually carried on this market.

Senega Root.—This seems to be again entirely neglected, the season for its use having passed. The struggles amongst the principal dealers in this root in the Northwest during the past year, have resulted only in loss to themselves, and to all others who have had anything to do with the marketing of the drug.

CHICAGO LETTER.

The Difficulties of the Chicago College of Pharmacy—Disinterested Observations on the Standardization Discussion—The Activity of the Leading Retailers—The Tribulations of the Wholesaler—On the Infinities of Pharmacy—The Progress of Pharmaceutical Education in Chicago.

I find Chicago the easiest city in the West to write a pharmaceutical letter from. It is boiling over with things interesting. There seems to be a general regret over the College fuss. I remember reading a satirical letter in the BULLETIN some time ago, "Why Do Druggists Kick?" Then it was the St. Louis College that had Faculty troubles; now Chicago has a like trouble. The daily papers are full of the row, and mince matters badly.

The Chicago College of Pharmacy settled down to business April 8th, and the Faculty held another meeting, electing 16 Trustees from which officers are to be elected. It is feared that this is an acknowledgement that for years the officers were not legally elected, and this may invalidate many important actions taken by former officers—if not all diplomas signed by the illegal officers. Some even think that the charter itself is forfeited, and anybody may take out incorporation papers under the name of the old College. For years we have been accustomed to see Prof. Oldberg's name—and his percolation processes—linked with the Chicago College trouble, but this difficulty seems to have been developed regardless of Prof. Oldberg; indeed the language used by the Faculty against some of the members, in a manifesto issued, is not very complimentary, and is very different in tone and diction from that of the beautiful circular on the condition of the School, sent out a few months ago by the Dean. The Faculty must have used different spectacles at different times in reaching the facts.

We saw a circular four years ago, directed against a new school, that was mild and gentle compared with this tirade of one party against the other—in the same school. Chicago ways are hard to understand; first *Prof. Oldberg* was to blame for everything; then the *Board;* then the *New School;* then came the long tale of Chicago factions; and now comes the unkindest cut of all —the slaughtering of brother by brother. We think Chicago is wasting its talent in useless quarrels, and perhaps that accounts for the important representation the drug trade had in the World's Fair contest for Commissioners.

⁂

I took some pains to sound the trade on the question of standardization, and am perfectly amazed to find how very few take the slightest interest in the matter, or pay attention to the bitter, abusive battles in the journals. According to the journals, one would believe the pharmaceutical skies ablaze, but all is quiet and indifferent.

I approached a number of representative druggists, and shall endeavor to briefly give their views. One of them expressed himself in a very happy vein. He said he felt somewhat like the Irish horse-thief who thought he was guilty before he heard his attorney talk, and *then* began to doubt; so he, too, thought he had his mind made up until the discussion grew warm, and now he had decided to wait till he heard the evidence.

I also had the pleasure of meeting and conversing with a gentleman of French antecedents (I state this in explanation of the rather exuberant phraseology and volatile verbosity of the following comments).

He began as follows: "I am emphatically for all progressive enterprise, and for standardization in the opium of the U. S. P. The opponents of standardization hurt their cause by the brilliancy of their decorative abuse, and by the absence of rationality. 'When reason is lacking, Billingsgate is abounding,' as Thackeray aptly says.

"In ancient days, Theriacum and Mithridatum were at the pinnacle of the times. When physicians clamored for more positive medication, the tribunes of the day, 'one-day flies,' certainly dipped their vocabulary just as deep into rancor and spleen as the orators of to-day against the latest progress. But observe the inconsistency! Even the rankest of the rank say, 'We do not object to standardization of conium or nux vomica, but we strenuously shall denounce anybody who advocates more than two standardized preparations, as sharks and Shylocks!' And this although the preparations objected to are just as fit for standardization as the ones the opposition kindly condescends to accept. The authors of the attacks on standardization are entitled to the medal for inconsistency. They are victims of delusion, and in their way worse than the Parisian Petroleuse of 1871."

A gentleman connected with the manufacturing interest looked forward to the coming Convention with great expectations; he was opposed to rash innovations, but thought the opportunities for men of second-rate ability but first-rate gift of gab and cheek, were unprecedented for indulgence in high-strung appeals to the galleries, in behalf of the down-trodden druggists who already are bound body and soul to the manufacturers for their unstandardized fluid extracts and pills; this, of course, was all satire but true, as no druggist can run a pharmacy without somebody's preparations. A bright Westsider confessed ignorance about the matters at issue, and said he understood the less the more he heard and read about it. How anybody could advocate assayed drugs for preparations, but oppose the assay of the finished product, was too much for his horizon. How can anybody love sunshine and hate the sun itself?

A Northsider of excellent scientific attainments, said that the retailer might just as well oppose the unassayed fluid extracts as the assayed ones; he did not think a dozen retailers in Chicago made their unassayed fluid extracts, and suggested that there could be no objection to assayed preparations, particularly as several houses already offered such preparations at equal figures.

I met one druggist who was a little worked up. He said he was not in business for his health, and had not made an investment that brought better returns by increased patronage of his trade, and also by physicians, than by his somewhat extensive investment in P., D. & Co.'s preparations; yet, regarding standardization, he held no views one way or the other, but because he is enthusiastic over his P., D. & Co. experience, he has been accused beforehand of being pledged to standardization. Said he: "I shall listen carefully to both sides, and then decide on the merits of the case; but prejudice always prejudices me, and because the hot-headed opponents of standardization charge me with opinions I do not hold, I am inclined to think I shall come out against such prejudice after all. If I find standardization desirable, I shall have the courage of my opinion; if not, I shall likewise say so, irrespective of my favorable opinion of P., D. & Co."

I struck one abusive chap, who said he was against standardization because of the word itself. He launched out fiercely against the fellows who always had the word "standard" on their lips, and said: "You can tell a fraud and a substituter, and a professional kicker, by the way he slings the word 'standard.' Right here in Chicago, the biggest farce in pharmacy is the loudest shrieker for 'standard.' Show me a 'standard' blower, and I will show you a pharmaceutical incompatability and hypocrite."

⁂

I can not help admiring the activity among the leading retailers. The Chicago Pharmacal Company unites leading pharmacists for the purpose of purchasing together, at lowest market bulk figures, as well as making proprietary remedies in competition with patent medicines sold by some department stores at cut-rates. This union of druggists, and the Retailers' Association, do splendid work whenever united action is demanded. The record of success with the liquor license and telephone question in defeating Mayor Roche's resolution, bear witness to what has and can be done.

I was amused to hear what a retailer had to say about James E. Davis' paper on "The Tribulations of a Wholesaler." This gentleman regretted that he did not have leisure to get up a paper on "The Tribulations of the Retailers with the Wholesalers." He said that the wholesalers would be on the verge of ruin if the retailers did not study manufacturers' lists better than the wholesalers do, and protect them against their bulling billing clerks. He showed me proofs of his assertions, and I encouraged him to make use of his next vacation for such an amusing paper as he contemplated.

The other day it was my pleasure to read a long paper, read before the New York College of Pharmacy, on the Infinities of Pharmacy. The paper was unusually able, and a genuine treat of high degree. But there is another side to the picture, if we carry the author's conclusions to their ultimate end. It makes us shudder when we eat a piece of rye bread. Only lately a Vienna chemist discovered about ten new organic substances in ergot. We all know how easily ergot can occur in rye. If we know so little about rye and its possible constituents, how is it we have eaten it for so many centuries? And yet the European authorities demand through their health officers that the rye offered in trade be of certain qualities. Let us go further. If we know so little about the infinities of hydrastis, how can reputable firms recommend several preparations of hydrastis, colorless and otherwise, to be employed in injections for various specific troubles? Is there not a possibility that there are a legion of unknown infinities hidden in the golden seal root, or are these preparations of absolute known standardized composition embracing stable metallic constituents? In one of the cracked-up golden seal liquids advertised, we found a half ounce infinity precipitated in a lump resembling commercial alum.

⁂

The Illinois College of Pharmacy is reaping the benefit of its permanent, stable organization in steadily increasing classes. Soon the College will be able to insist on preliminary education of students, and then more than ever will the diploma of this College be an assurance that the owner is a competent pharmacist and a scholar. This climax could not have been reached by an organization subject to fluctuations.

⁂

In conclusion, would say that the *grippe* boom is over and followed by a slackening up in trade. Of course the horrible weather is accountable, and the World's Fair excitement cannot hide the naked truth that business is dull just now. My next places of report will be Cincinnati, Philadelphia and Boston—till I land at the city of the U. S. P. Convention.

DR. SQUIBB ON THE REVISION OF THE PHARMACOPŒIA.—At the regular meeting of the King's County Medical Association, held on February 14th, an annual address was read by the retiring President, Dr. E. R. Squibb, in compliance with the by-law provision to that intent. The subject of the address was the Approaching Revision of the United States Pharmacopœia. Dr. Squibb showed that the medical profession did not take that interest in the revision which its importance demanded, and that medical delegates of a higher order than those commonly chosen, should be appointed by the various constituent medical bodies.

Book Reviews.

A New Medical Dictionary. By George M. Gould, B. A., M. D. Half morocco, 8vo. pp. 519. Price $3.25; with thumb index, $4.25. Published by P. Blackiston, Son, & Co. Philadelphia. For sale by Geo. S. Davis, Detroit.

Notwithstanding the vast growth of medical literature during the past decade, there has been no dictionary, not encyclopædic, accessible to the physician and student that has kept pace with the coinage of new words and terms; and yet the whole science of medicine has been largely revolutionized within this time, the growth of specialism alone increasing the vocabulary by some thousands of words.

This has led to the preparation of the above-mentioned work, which is a handbook of sufficient scope to include everything of use to the general practitioner and student, and at the same time be a compact, handy volume, occupying but little space on the crowded desk, giving exact information and quick reference. It not alone includes those new words and phrases that have been created during the last ten years, but especially covers the latest results in the study of bacteriology, ptomaines, leucomaines, electro-therapeutics, embryology, physiology, pathology, étc., and in the various special branches of medicine, such as ophthalmology, otology, laryngology, gynæcology, etc.

The intents of the author were, apparently: To make a dictionary both scientific and practical; one that would include all useful, and exclude all obsolete words. To make all definitions as compact and short as was consistent with clearness and adequate comprehension, and by logical association and abundant cross-references, to make it easy to find a word or term. To aid comprehension of a subject by keeping, so far as seemed wise and best, such words and phrases together as were logically bound up with each other. To aid practical men by including in order all official and officinal articles in the Materia Medica, together with their preparations and dosage. To tabulate, in alphabetical order, large groupings of facts in such a manner that a quick and thorough recognition of the bearings and relations of each and the whole are readily understood. To make all definitions and classifications reflect the latest scholarship; this was effected by means of direct compilation from the most authoritative and recent text-books in each special and general department of medicine. Finally, to give the work, so far as its scope would allow, a broad usefulness by furnishing, beside the definition, accessory information germane to the word or subject, such as the tabular matter, preparations, effects, uses and dosage of drugs, tests in urinalysis, etc. In all he has succeeded most admirably.

The tables of bacteria, leucomaines, ptomaines; of muscles, nerves, arteries, ganglia, plexuses; of abbreviations, prefixes, and suffixes used in medicine; of comparison of thermometers; of weights and measures; mineral springs; vital statistics, etc.; are unique and useful features of special service to the student, being the only effort of the kind that, to our knowledge, has ever been made to classify such subjects outside of text-books. Hitherto it has been necessary to consult several books, and to read some hundreds of pages of wordy descriptions, in order to obtain the information that is here concisely conveyed.

The work of preparation, in which the author has had able help and advice, occupied several years of hard, unremitting labor, which will be duly appreciated by those who examine or use the book.

***Kew Garden Bulletin;* March, 1890.**

There are several very interesting articles of "miscellaneous information," in this number. Paper CXXXIV treats of the source of Purree or Indian Yellow, a coloring matter much employed in water-color painting. The substance is highly esteemed by artists for the brilliancy and permanency of its orange yellow color, but nothing certain appears hitherto to have been known regarding its origin. It is now satisfactorily proved to be a deposit of the urine of cows that are fed on mango leaves. Paper CXXXVI, is a critical note on the "Commercial Value of Loxa Bark," in which the curious fact is disclosed that fine old silvery Loxa commands about twelve times the price of average Jamaica, "not, however, on account of a larger percentage of alkaloid, but because it is used to give a peculiar bouquet to the tonic wine of cinchona that is sold so largely in France." Paper CXXXVII, is a historical and descriptive article on "Barilla," or crude sodium carbonate as obtained by burning certain plants. The industry is now almost obsolete owing to the cheaper method introduced by LeBlanc for preparing soda from common salt, but it is yet said to be made in the old fashioned way in the neighborhood of Alicante in Spain, and in one or two places in India. Barilla is the ash of land plants; Kelp, another well-known and also obsolete source of soda, is the ash of sea-weeds.

In an accompanying Appendix we notice that the *Podophyllum Emodi*, Wall., of Northern India, has been found to be perfectly hardy at Kew Gardens. Our readers may remember that it has been previously reported in these columns as a probable source of podophyllin, containing no less than three times larger a proportion of that resin than is found in our indigenous mandrake, the *P. peltatum*, Lin. Now that it is proved hardy in the south of England, why should it not be introduced here? This is one of the occasions in which our British cousins are able to get ahead of us through the possession of a National Botanical Museum, Herbarium, and Experimental Gardens. Why cannot we raise sufficient enthusiasm in the matter to establish one for these United States?

Facetiæ.

THE PRESCRIPTION.

Bizz z! bizz-z!! bizz-z!!!

"Hallo! There goes my call. I wonder what is wanted now!" I said, in response to the "triplex buzz,' as I called it, which had just sounded from the small electric call box at my desk. I leisurely swung my feet from the top of the U. S. Dispensatory—where I usually hang them on account of the small size of the office—carefully balanced three-quarters of an inch of cigar on the edge of my desk, and proceeded to answer the summons from the editorial sanctum.

"Good morning, Doctor. You called me, I believe?"

"Yes, Mr. Nother; I have a proposition to make. Won't you be seated? Help yourself to a cigar—Don't speak of it! How would you like to take a trip in the capacity of correspondent for the BULLETIN?"

"I can assure you, Doctor, it would afford me unadulterated pleasure."

"I am not so sure about that; however, we purpose sending you on such a journey, leaving you free to choose your own time and route; you may move when you please, stop when you wish, and go just where your own sweet fancy leads you, providing, of course, that the BULLETIN hears regularly from you each month."

"Pardon me, Doctor, but might I be permitted to ask why I am to be thus thrown upon an innocent and unsuspecting public?"

"Your question is most proper. First, you will get some fresh ideas, a commodity you sadly require——! ——!!! * * * * ?!——!! I must request you, Mr. Nother, to listen to me without displaying so much feeling. Had that inkstand struck the window it would certainly have broken it; as it is, you have ruined the carpet. Kindly restrain yourself and endeavor to show your depth of feeling in a less hilarious manner.——As I was saying, when interrupted, you will gain new ideas; you will visit all kinds and conditions of both pharmacists and physicians; you will study their peculiar characteristics, talk with them, and prevail upon them to recount anecdotes of phun, pathos, or physic, which may have been woven into their experiences; you will glean from them useful hints, improved methods, descriptions of quaint characters, etc.; in short, you will be a free lance controlled by no bounds except those of good taste, chaste humor, and progressive pharmacy. Your tilting point—pharmacists and all pertaining to them; your lists—the world. How does the prospect strike you?"

"Doctor, you fairly daze me with the license and scope of your plan; but you neglected to state how you wished me to travel."

"Pardon me, I did overlook that point. Considering your well-known aversion to water, you will avoid sailing as much as possible. To all points which may be reached by land, you will invariably go on foot."

By the application of cold cloths to the back of my neck, and a liberal supply of brandy to the inside, I soon regained consciousness, but even as I write, my head is quite sore, as the result of a too persistent contact with the doctor's desk. My first words, on recovering, were an echo of the Doctor's last. "O-n f-o-o-t,"—did-I-understand-you-to-say—Doctor?

Certainly!—Bye the way, when can you be ready to start?

"Well—really, Doctor, this cyclonic manner of mapping out a campaign should be refreshing, but the fact is, it has simply dazed me. I suppose, to be in keeping with your Maud S. style of doing business, I should answer your last question by striking a Michael Strogoff attitude and exclaiming in deep thrilling tones, 'I am ready now,' but then"—

"Pardon me, Mr. Nother, it gradually dawns upon me that you are attempting to be facetious. Now, whatever you may do in the mysterious recesses of your own den, it ill becomes you to break the carefully folded calm of this sanctum with anything approaching humor. Yet, knowing how averse you are to anything of that nature, I take you at your word. You will report at my office at one o'clock to-morrow, fully equipped for at least a six months' trip; in the meantime you have *carte blanche* regarding what you get, and where you get it. Good morning, Mr. Nother."

I gracefully shoved myself out of the presence and, with a brain whirling as though the intellectual pendulum had got unhinged, went back to my den.

Walk! tramp! get blisters! wear corn-plasters! Such were a few of the soul-stirring thoughts which passed through my brain as I gazed on the silhouette of shoe leather which my feet formed against the bright glare of the skylight. I grew tender towards those pedals as I looked prophetically at the experiences of the next half year, and felt that they were destined to exchange their alabaster hue for the mottled, flushed complexion of a street Arab's. I was fast drifting into a land of dismal speculation when I remembered the Doctor's parting command: "One o'clock tomorrow!" No time for idle fancy now. I must move, and that quickly. As I brought my feet back to their normal position a thought struck me with all the force of a revelation. The Doctor had not ordered me to go alone; consequently I would have company, if I had to buy it. There was my friend Spiffkins, a pharmacist, full of the sugar of-milk of human kindness, fond of a lark, and possessing plenty of spare time. I would ask Spiff. to accompany me—

Hallo! Is that the Central?

Yes.

Give me 309.

H-a-l-l-o-o-o.

Hallo, Spiff., old boy, is that you?

Betcherlife!

Say, old man, I'm in deep trouble, and want you to help me out. I have been sent up for six months—well, I don't mean that altogether—I have been ordered on a six months' jaunt—on foot—don't you want to come along?

You bet ye'.

Can you be ready by one o'clock to-morrow?

Cert.

Thanks, old Spiffy! Thanks, awfully. Good-bye!

"Bye!"

Spiff. never says a great deal, but his words are usually full of honey. Well, that affair is settled—now to work!

I will not add to your tortures, suffering reader, by detailing the particulars of preparation. Suffice it to say that promptly at one o'clock on the first day of April, 1890, my rotund friend Spiffkins, and my somewhat protracted self, stood reverently receiving the editorial blessing on our enterprise. The blessing might not be counted as orthodox, but it covered our case as a foreign title covers the possessor's character, and we could not ask anything nearer perfection than that.

"Glad to know you are going along, Mr. Spiffkins," said the Doctor, "and trust you may enjoy yourself—

Ah! by the way, excuse me, but—have you got hip-disease? I notice a considerable swelling on that part of your body."

Here Spiff. gently drew from his basement pocket a peculiarly shaped glass vessel, held it up to the light, carefully closed his left eye, and laconically said "budge." Deep silence reigned as we carefully examined the heavens through the bottom of this glass, and the "g-luck, g-luck, g luck, g luck, of the contents, was like a strain of childhood's lullaby wafted over the expanse of intervening years;—at least Spiff. said so, and he is an authority on such matters.—Spiff. carefully placed the "swelling" back in his pocket, "good byes" were said; hands warmly grasped; the door of the "sanctum" closed upon us and we were—tramps.

DOSE THE FIRST.

The-road-side, Mich., April 5th, '90.

Dear Doctor:—Kindly express us, to this point, 1 qt. Distilled extract of Witch Hazel, 1 lb. Chlor-anodyne, 1 gross Corn plasters, 1 gallon Tincture of Arnica, 2 boxes of Cigars, and oblige,

Respectfully,

A. NOTHER.

Well here we are—five days on the road and only 52 miles from Detroit! After saying good bye to the Doctor, last Tuesday, we stood on the pavement looking earnestly into each other's faces. Finally, I said to Spiff., "Say old man, I don't like the idea of going through the streets of Detroit, looking for all the world like Don Quixote and Sancho Panza; what do you say? Spiff. answered me, in a most practical manner, by hailing a passing cab. When we were seated inside he said "We may still play the Don and Sancho but we will have our Rosinante." We had the cabby drive us well outside the city limits, when we alighted and, having paid our fare—we are especially anxious that this should be noted—we stood watching the receding cab as though it were the one remaining strand binding us to civilization. Soon it disappeared and, heaving a deep sigh, we commenced placing our feet in such positions that, ere dusk had settled, we were some ten miles on our

journey and had struck a way-side inn. Spiff. had intended bringing a friend of his along for the first month of our tramp, but, on the day of our departure found he was too ill to accompany us, and the cause of his indisposition was so novel, and yet one which has so often similarly affected drug clerks the world over, that I cannot resist the temptation to recount it as related to me by Spiff. that evening in our cosy sitting room. After lighting our cigars Spiff. commenced.

"Blodgins is no more, or less, of a fool than the great majority of the human family; yet he has one peculiarity which brings him no end of uneasiness, and is the direct cause of his not being here this evening. Blodgins will taste anything that chances to be lying around, from fluid extract of capsicum to aconite root, but his pet hold is on medicated lozenges. Last Saturday he came into my office nibbling a pink lozenge. Thinking I now had a good opportunity to cure him of this somewhat dangerous habit, I said, in as startled tones as I could command, 'Great heavens man! what are you eating.' He paused, in the act of putting the balance of the lozenge in his mouth, grew pale and stammered 'I—I—d'know—I picked it off a pile in the lozenge room. I hope it is not poisonous? I took the piece of confection from him, pretended to carefully examine it, then fixing him with a stony glare I said in sepulchral tones, 'Blodgins! do you know what you have done?'—here his knees began to warp—'You have eaten santonin, and you cannot get the pernicious substance out of your system quick enough! One of the boys caught him as he fell against the wall, and gently slid him into a chair. At this point I had occasion to visit another part of the works, which detained me about a quarter of an hour. I will not soon forget the picture my office presented on my return, or the herculean efforts I made to keep from laughing. Blodgins was lying on an improvised couch with his eyes closed, muttering some Latin formula from Pereira as the nearest approach he knew of to praying. Seated on the floor beside him was one of the boys, trying to comfort him by reading, in deep, impressive tones, the following passage from the U. S. Dispensatory. 'Decidedly poisonous effects sometimes arise from doses which are quite insignificant (groans from Blodgins) in comparison with those which some experimentors have taken without serious inconvenience. * * * * Although recovery generally takes place after such grave symptoms, they occasionally terminate in death. These illustrations suffice to prove the dangerous nature of santonin.'

Another of his companions had just administered the second pint of soap suds, and was now preparing a dose of ipecac, while the remaining two were rigging up an old syringe to do duty as a stomach-pump. By Jove, Nother, the scene beggars description. I stood back in the shadow with my handkerchief stuffed half-way down my throat, shaking with suppressed laughter, as I heard poor Blodgins mutter, "Oh Lord! this is awful! I will die without seeing any of my folks—die full of soapsuds, ipecac and santonin. *Hujus danda sunt cochlearia duo mediocria singulis horæ quadrantibus, donec vomitus sequatur.* Now I lay me down to sleep—here, Bill, old chum, I give you my Waterbury; and you, Sam, this ring. In less than four hours I won't require either of them. Think kindly of me when I am gone, and take an old fool's advice: Stick closely to what your boarding house table offers, and do not attempt to build up your system by lunching off every stray drug and chemical that happens to come in your way. *Fiat haustus emetico. Potione copiosa puræ aquæ tepefactæ, vomitio benè provocatur.*

Shall I be carried to the skies
  On flowery beds of ease,
While others fought to win the prize,
  And sailed through bloody seas?

"Boys, do my devotions strike you as about the proper thing to get a pharmacist past St. Peter? Bill, give me another gallon of soap-suds, fold my hands calmly on my breast, and I'll float there all O.K."

This was the last straw. The boys burst into a hearty peal of laughter, in which I joined. Blodgins sat bolt upright. Such levity around his dying couch made him mad, and he said he could lick every man in the department, even though he had only an hour to live. I got a feather, saturated it well with glycerin, applied it in a proper manner to Blodgins' throat, and inside of five minutes he had unburdened himself of four pints of soapsuds, two square meals, a potion of ipecac, his principles, and a few choice expressions which were not offered as supplications. He was, as a natural consequence, very weak. I advised him to go home till he felt better, and in the future take his own dying advice to the boys, and be more careful about what he tasted. I called to see him before we started and found him much better, but not well enough to tramp. He has taken a great dislike to anything pink and, just before I called had burned a half-dozen pink neckties which he had greatly prized." I laughed heartily over Spiff's. recital, and thinking other drug-clerks might be afflicted with Blodgins' habit, send the "BULLETIN" his experience as a warning.

Immediately on the arrival of the express package requested (with the contents of which we expect to ease our sufferings) we push on, and hope to have something more interesting to send you for May.

(*To be continued.*)*

---

* These sketches will be continued through the greater part of this year; and we hope they may bring a smile to many pharmacist's faces, help to lighten the tedium of business, and make the drug-clerk's long hours not altogether unpleasant.—(ED.)

Abstracts and Translations.

Standardization.

Some of our contemporaries seem to have lost their temper in discussing this subject, and make statements that are at variance with facts. The matter of standardization is already an accomplished fact, for the Pharmacopœia is a book of standards, alike for producer, dispenser and physician. Besides the standard of proportion of crude drugs and chemicals that enter into the preparations themselves, the same guide book has given certain standards for the chemical or extractive strength of crude drugs or finished products. To be sure it is not many that are thus standardized, and more's the pity that the directions are not heeded to a wider extent than they are, but there is no reason why there should not be more standardized now than were authorized ten years ago. Has not chemical and pharmaceutical skill made any advances in that period, and if so is it not commendable to place it in the foremost Pharmacopœia in the world?

Those who favor the addition of other articles to the few already standardized, are not at all looking to the private interests of the few, but rather at the broader interests of the consumer, the invalid, that there may be more certainty of results when an article is to be used for their relief. If powdered opium is sold at a standardized strength of the morphine content, why may not other alkaloidal drugs be similarly standardized?

If tincture of nux vomica be standardized, why not some other potent tinctures? Because some, or many, heed it not, is no reason for fear or failure to improve our National text-book. A truce to the abuse of some of the periodicals who present arguments that are unworthy of mention, and let this matter rest for the calm consideration and judgment of the Convention, untrammeled by the *personal* motives that may influence either those who favor or disfavor the measure. It is not likely that any steps will be taken rashly or without due reflection as to the practicability of the methods and results, and especially should it be left to the Committee of Revision, for in their longer period of labors and experiments, they will be more able to do full justice to the subject than can be done in a Convention whose existence is but two or three days at most. We favor standardization of potent drugs whenever it can be readily and reliably done without curtailing unnecessary expense, or serious trouble to secure it, and oppose it where it is not desirable or fails to add security for uniform products.—*Pharm. Record*, April 7th.

Note on Pure Atropine Sulphate.

There is no necessity to repeat what science owes to Schmidt, Ladenburg, and Will, on atropine, hyoscyamine and hyoscine. Their labors are known and appreciated.

I desire only to record an observation about the situation of to-day. The distinction made in the prices current of chemical manufacturers in speaking of *heavy* sulphate of atropine (the condensation product of hyoscyamine), or in mentioning a contradictory melting point (115° C.), or in quoting *atropinum purum* and *atropinum naturale*, will not be understood by many. The pharmacist would be saved a good deal of annoyance, if the revised U. S. Pharmacopœia, in its description of the properties of atropine sulphate and pure atropine, would not repeat the inaccurracy of the edition of 1882 that these compounds must answer satisfactorily to properties distinctly different from those of hyoscyamine. Eminent ophthalmological authorities have observed that the effects of both alkaloids on the healthy and on the diseased eye are equal. The samples of atropine sulphate, on which my observations are based, were derived from two different manufacturers of high standing. Both samples melted at 188° C. I had taken the precaution of subjecting each one to Vitali's test. They were lævogyre. (Atropine is optically inactive). Their gold double salt had a melting point of 150° C., and was in brilliant, golden-colored scales, procured in the usual analytical way. They did not have the form of the salt reproduced by Wormley (Micro-Chemistry of Poisons, Plate xiii, Fig. 2); but I may state that broken glass has macroscopically about the same appearance as had the gold double salts of the two sample of atropine sulphate under a magnifying power of 100 diameters.

This experience is in accord with the observations of others, and leads to the conclusion that the atropine sulphate used in our drug stores at the present time is largely hyoscyamine sulphate.*—J. B. Nagelvoort, in *Amer. Jour. of Pharmacy*, March, 1890.

Detection of Hydrarg. Cyanidum.

Hydrargyri cyanidum is at present used by surgeons as an antiseptic to a much larger extent than ever before, (Lister's gauze, Lister's dressing), and its detection in cases of poisoning becomes, therefore, more important to the apothecary.†

Dragendorff wrote in 1888: Hydrargyri cyanidum will yield only hydrocyanic acid by using a large excess of concentrated acids (*Ger. Chem. Ermitt. d. Gifte*, III, Auflage, page 63).‡

This is incorrect. There is also no need for Vitali's complicated process, recently described in *Pharm. Centralhalle*, 12th Dec., 1889, page 741. Compare also *Jour. de Pharm. et de Chimie*, 15th Jan., 1890, page 86.

I found that hydrarg. cyanidum is easily decomposed by adding NaCl to the acid. Distilling with oxalic acid and chloride of soda, I was able to detect 50 per cent. of the cyanide; and when I used diluted hydrochloric acid (0.73 HCl in 125 c. c. water), I distilled easily 80 per cent. of the cyanide present as hydrocyanic acid (*Fresenius Zeitschr. f. Anal. Chemie*, 1879, page 408).

---

* A large manufacturing house of Germany supplied the writer with 1 kilogramme atropine melting at 180° C. (179° 5 C.) and yielding an atropine gold double salt melting at 137–139°, and stated that they would supply a genuine uniform article in the future.—J. B. N.

† Two recent illustrations of the necessity of such investigations, are afforded by the recent reports of the variance in strength of germicidal or antiseptic dressings pointed out by Messrs. Seabury & Johnson, and the discussion in the English chemical and pharmaceutical journals of the assaying of cyanide of mercury in connection with the manufacture of Lister's new surgical dressing.

‡ Dragendorff writes on page 67, l. c., "It is easily decomposed by hydrochloric acid, but withstands the action of diluted sulphuric and nitric acid without being decomposed."

This simple modification of the usual process of analysis was recognized, three years ago, by Luigi Marenco, and recorded in *Otto's Anleitung sur Ausm. d. Gifte, Für Chemiker, Apotheker*, etc., 6th Aufl., Fr. Vieweg & S., 1884).—Prof. P. C. Plugge.*

A Convenient Apparatus for Sterilizing Milk.†

A convenient apparatus for the domestic sterilization of milk has, upon my suggestion, been manufactured by Fraser & Co., after designs in which I haved aimed to lessen the possible number of flaws in the method.

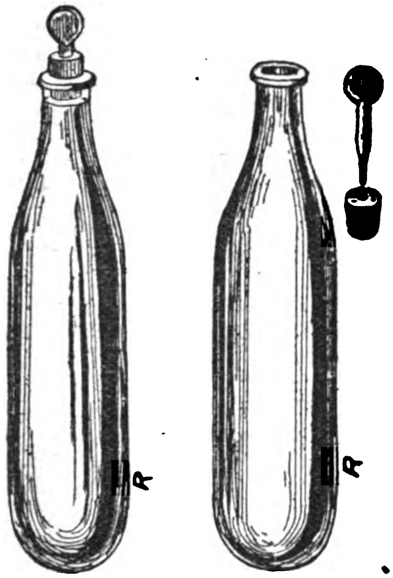


FIG. 1.

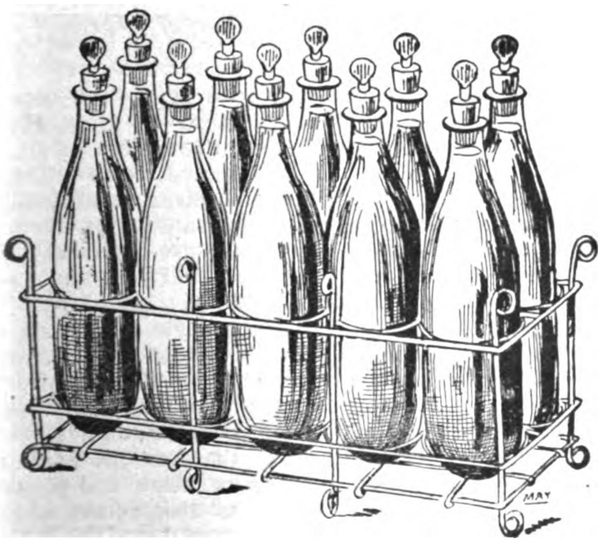


FIG. 2.

Fig. 1 shows the new sterilizing bottle. It was designed so that it could easily be cleaned, having no corners or curves that would retain particles of sour milk to contaminate the next supply. The corks (rubber and glass) have been adapted from others' designs, as they have already proved all that could be desired.

Fig. 2 shows the bottles filled, corked, and placed in the rack, which is to be lowered into the tin pan where they are sterilized. This rack will also conveniently serve to hold the bottles of milk in the ice-chest at home, or in the lunch-basket when traveling. It is light in weight, and economizes room to the last possible degree. The small single rack (Fig. 3) is used to hold a bottle that is warmed for an infant. The bottle and rack are put into a small tin cup of warm water and placed over an alcohol lamp. The apparatus is completed by a square covered tin pan that will just fit outside the rack and bottles. For traveling, a wicker basket of a size to hold one or more dozen bottles is designed to be used.

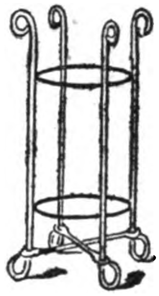


FIG. 3.

The process of sterilizing milk is now so well known that only the briefest review of the method to be used with this apparatus will be necessary.

The bottles are filled with milk to within an inch of the top, the rubber perforated corks are inserted, the bottles placed in the wire rack, and this lowered into the tin dish. Cold water is then poured in around the bottles to within two inches of their mouths. The tin cover having been put on, the temperature of the water is gradually raised until it boils ten minutes. The glass stoppers are then inserted, and the boiling continued for twenty minutes longer. The rack containing the bottles of milk, now sterilized, is lifted out and put away where the bottles may cool gradually. If the changes of temperature are sudden, the glass becomes brittle, and numbers of the bottles are broken. If milk so prepared will not keep from one to three months, there is almost certainly some lack of cleanliness in the apparatus used.

It would seem that as yet sufficient emphasis is not laid upon the necessity of sterilizing all milk for children and invalids. One well-known writer says: "When milk can not be obtained fresh it is well to sterilize it before using;" another that "in warm weather it is a wise precaution;" and a third that "in case of bowel or stomach trouble, sterilized milk is safer." But it is in this, as in other lines of medical research, the ounce of prevention that is the thing to be desired. Professional men who, a generation since, would have absorbed themselves in the study of disease and its remedies, now more earnestly seek to understand the necessary conditions of health and its preservation. When all milk which is given to a child is scientifically sterilized, it does not suffer from bowel trouble, nor from "sour" stomach, and it forms no indigesttible curds, since cow's milk, after it is sterilized, curds in small soft flakes as mother's milk does. An infant with ordinary good heredity, who is thus fed with creamy sterilized milk, will go through with teething and suffer no disturbance or inconvenience greater than the teasing irritation of tender gums.

---

* Excerpt *Ned. Tydschr. voor Pharm.*, March, 1890.

† Abstract of article by Wm. B. Wood, M.D., in the "*Trained Nurse*," February 29th.

Pharmaceutical Progress.

SUCCESSFUL ANTIDOTE IN THE COLLAPSE OF CHLOROFORM POISONING.—Nitrite of amyl is commended as the most rational and successful antidote to use where chloroform or cocaine seem to threaten life by their unfavorable action on the heart. A few drops of nitrite of amyl administered by inhalation will be one of the most probable means of restoring the heart's action.

CRYSTALLIZED HYOSCINE.—Dr. Schmidt repeats the statement made by him a few months since at Heidelberg, as to the preparation of crystallized hyoscine. He says that Herr Bender has presented him with a sample of hyoscine in well formed crystals, as well as some hyoscine hydrobromide in splendid well-formed crystals, 1.5 centimetre long, 1 centimetre broad, and nearly 1 centimetre thick. The hyoscine is said to have been obtained in the working of about a hundred kilogrammes of *Scopolia atropoides* root, and is to form the subject of a future communication.

PASTE FOR STORE USE.—

Flour	4 oz.
Gum Arabic in powder	1 oz.
Glycerin	1 fl. oz.
Salicylic acid	60 grains.
Water	2 pints.

Mix all in a mortar, pass through a sieve, boil a few moments with constant stirring to prevent burning; avoid contact with iron. This paste will be found greatly preferable to most of those in general use.

CHAULMOOGRA PLANTS have, it seems, been successfully introduced at Réunion by the director of the Botanical Gardens. The trees are reported to be very difficult to propagate, and still more so to transplant; hence the comparatively limited area over which they are found, notwithstanding the great medicinal value of the oil extracted from the seeds. Chaulmoogra oil is probably the only known remedy that will, not cure leprosy, but alleviate it, and it is to this object that the plant owes its introduction into Réunion Island.—*Chem. and Druggist.*

PURGATIVE CHOCOLATE.—M. Giraud proposes a preparation made as follows:

Cacao (powdered and freed from oil)	50 grammes.
Sugar (powdered)	100 "
Castor oil	50 "
Vanilla (powdered)	q. s.

Make into tablets.

The oil should be incorporated with the cacao, and the sugar and vanilla added. The ingredients must be well worked up on a heated slab, and allowed to cool in moulds.

ARTIFICIAL "NARCEINE" IS THERAPEUTICALLY WORTHLESS.—Some time ago a process was discovered and patented for preparing what was supposed to be pure narceine (occurring naturally in opium) from narcotine, by converting the latter into methylnarcotine chloride, treating with soda, and then with water. The ultimate composition agreed with that of true narceine, and also the physical properties. On the strength of this, a good deal of artificial narceine has been manufactured and put upon the market.

It is now pointed out by Roser (Liebig's *Annalen*, 254, 357) that narceine is not at all related chemically to narcotine, and cannot be derived from it. Claus and Meixner have shown that it is a derivative of naphthalin. Moreover, Prof. Filehne, of Erlangen, has informed Roser that the physiological effects which have been ascribed to artificial narceine—which should be called pseudo-narceine—are chimerical, and that it has no narcotic properties whatever.—*American Druggist.*

PERCENTAGE OF IODINE IN FUCUS VESICULOSUS AND CHONDRUS CRISPUS.—L. Van Itallie (*Arch. d. Pharm.*, 1889, 1132) obtained reactions for iodine by means of Prof. F. A. Flückigar's method (*Archiv.*, 1887, 519) with 10 grammes *Ch. crispus* and 3 grammes *Fucus vesiculosus.* For quantitative estimation, the latter alga was treated as follows: 50 grammes of the powdered plant were macerated for eight days with 40 per cent. alcohol, strained, and washed with alcohol until colorless. The liquid was neutralized with sodium carbonate, evaporated to syrupy consistency, absolute alcohol added, and the precipitate washed with alcohol. The filtrate was evaporated, residue dissolved in water, treated in a separating funnel with dilute sulphuric acid containing nitrous acid, and the iodine taken up with chloroform. The solution was washed a number of times with water to remove the nitrous acid, and the iodine titrated with $\frac{1}{100}$ sodium thiosulphate solution. The author found 0.01078 per cent. iodine.—*Amer. Jour. of Pharm.*

LIQUID SOAPS.—In a paper read before the recent Congress of Russian Pharmaceutical Societies, Herr Laidemann called attention to the therapeutic value of liquid soaps, which he claimed presented the advantages of being more suitable for inunction, favoring admixture of medicinal substances, and being always producible from vegetable oils, thus avoiding the use of animal fats (*Phar. Zeit. Russ.*, Dec. 24th, p. 820). The formula recommended by him for a liquid soap is, to mix 1 part of caustic potash dissolved in an equal weight of water, with 4 parts of olive oil and one-fourth part of alcohol, and shake vigorously during ten minutes. The mixture is repeatedly stirred during the next hour, then mixed with an equal quantity of water, and after standing several days filtered. The author states that carbolic acid incorporated with a potash soap has its caustic and poisonous properties paralyzed, whilst its disinfectant action appears to be increased. It is also stated that the Berlin District Sanitary Commission has found a solution of potash soap in 10,000 of water, completely prevents the development of the splenic fever bacillus, and has recommended a solution of 15 parts in 10,000 as one of the best disinfectants.

DEODORIZATION OF IODOFORM BY TAR.—Ehrmann, of Vienna, finds that a pomade of iodoform to which tar is added does not possess the odor of iodoform, and he therefore employs this for the treatment of syphilitic ulcers.

M. Negel, of Jassy, has also confirmed the property which tar possesses of masking the odor of iodoform.

M. Konya has obtained in mixing 10 parts of iodoform with 100 parts of tar, a paste which will give forth neither the taste of tar nor that of iodoform.

With the addition of 5 per cent. only, a mixture in powdered form is obtained which no longer possesses the odor of iodoform.

This property of tar of deodorizing, has suggested to Mr. Konya the idea of adding to suppositories of iodoform, and it has suggested the idea to Mr. Negêl of manufacturing pills by the following formula:

Iodoform....................	3 grammes,
Wood tar.....................	15 grammes,
Extract thebaique*...........	0.60 grammes.

To be made into 120 pills, of which Mr. Negel administers 8 per day to phthisics, who take this medicine without any repugnance whatever.—*Journal la Clinique.*

CONTRIBUTION TO THE KNOWLEDGE OF THE ALKALOIDS OF BERBERIS AQUIFOLIUM—SYNOPSIS OF THE RESULTS OF THIS INVESTIGATION.—1. The root of *Berberis aquifolium*, Nutt., as also the root of *Berberis vulgaris*, contains the following alkaloids:

1. Oxyacanthin.
2. Berbamin.
3. Berberin.

1. In the root of *Berberis aquifolium* Phytosterin is also to be found.

2. For the Oxyacanthin as well as for the Berbamin, the same formula $C^{18}H^{19}NO^{3}$ may be given, but they are not identical.

3. The Aceton-Berberin is the most appropriate combination for producing a perfectly pure Berberin devoid of sulphuric acid.

4. The Aceton-Berberin is most advantageous for the preparation of the free base.

5. The Berberin yields with ethylen chloride a hydrochlorate of Berberin—with ethylen bromide a hydrobromate of Berberin—with ethyl iodide however, an additional product.

6. The Berberin is a tertiary base.

7. The Berberin contains 5½ molecules of water of crystallization.

8. Prepared according to the method of Schreiber, on drying Berberin loses in a current of hydrogen at 100° all its water of crystallization; that prepared by the method of Gaze, lost only 3 molecules, thus retaining 2½ molecules.

9. The Berberin forms no constant combinations with carbonic acid, but only exercises a very great attraction for carbonic acid.

10. The Berberin sulphate, as also the pure Berberin, yields combinations with sulphate of ammonia, which at once decompose on exposure to the air, and are therefore very difficult of characterization.—[*Inaugural Dissertation of* Frederic Stubbe, Hamburg].

Notes and News.

PURCHASE OF THE SODA FOUNTAIN INDUSTRY OF THE UNITED STATES BY AN ENGLISH SYNDICATE.—It is currently reported that all but one large manufacturer of soda-water apparatus has been bought out by an English syndicate who will hereafter run the combined business of the sellers.

A STEP IN ADVANCE.—"On motion, the Committee of Arrangements was instructed to prohibit, in the future, the exhibition of secret or proprietary articles in connection with the meetings of this Society." L. P. Gibson, M. D., Secretary.—*Extracted from the Transactions for 1889, of the State Medical Society of Arkansas.*

CHANCES OF GETTING DRUGS OF GOOD QUALITY ON PRESCRIPTION.—The report of the New York Analyst of Drugs shows that the chances for getting drugs of good quality on prescription is 43.8 per cent.; fair, 17.4; inferior, 26.; not as called for, 11.6; excessive strength, 1.2.—*Times and Register*, Philadelphia, Dec. 7th, 1889.

AGENTS FOR PURGATIVE MINERAL WATERS DESIRED.—Gourd & Tournade, whose announcement appears in the advertising columns of the BULLETIN, state that they desire to engage resident agents for their Natural Mineral Purgative Water all over the United States, and solicit correspondence with all who desire to represent this class of products.

INDICTED FOR PERJURY.—George Thiemann was arraigned in the Court of Sessions this morning to answer to an indictment for perjury. He pleaded not guilty. The indictment alleges that Thiemann committed the crime alleged on Nov. 20th, 1888, during the trial of a suit brought against him by Margaret Major, wife of Alphonse Major, manufacturer of "Major's Cement."—*Brooklyn Daily Times*, Nov. 24th.

LATEST FORM OF ADMINISTERING MENTHOL.—A foreign house has brought out cotton wool impregnated with menthol in different strengths, such as five, ten, and twenty per cent. respectively. The latter is intended for use in an antiseptic inhaler in phthisis, a much more convenient and less irritating method of inhalation than that in which heat is used. For all cases in which the vapor of menthol is indicated, the wools are claimed to be highly serviceable for the end in view.

DR. KNORR OF ANTIPYRIN FAME MAKES A FORTUNE.—It is reported that Dr. Knorr, of Germany, the discoverer of antipyrin, the remedy used so much for *la grippe*, made considerably over a million dollars by the winter's epidemic. The medicine sells at an average of $1.40 per ounce, and Dr. Knorr gets, it is said, a royalty of about 60 cents on every ounce sold. The demand everywhere was something tremendous. As much as $5.00 per ounce was frequently paid for the drug, and it was often unattainable at any price during the height of the plague. It was the old story of "any port in a storm," and as antipyrin was believed good for many febrile disorders, it was supposed to be a panacea for *la grippe*.

---

* Extract opii.—[ED.]

ANNOUNCEMENT OF ROBERT GREEN & CO.—Robert M. Green & Co., soda-water apparatus manufacturers of Philadelphia, announce that they desire the address of every soda-water apparatus salesman who may lose his position by reason of the four other largest manufacturers having sold out to an English syndicate.

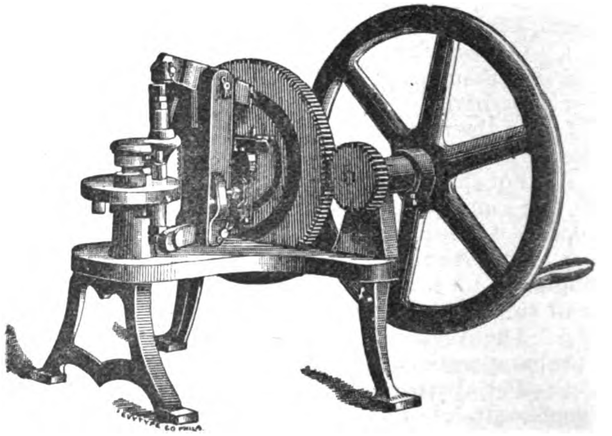
This firm informs us that they are the only large manufacturers of soda-water apparatus who have not sold to the English syndicate rumored to have purchased the soda-water apparatus in the United States. They have established new offices (205 Randolph St., Chicago, and 117 Main St., San Francisco) and increased their facilities, and propose to actively compete with the new combination formed.

MEDICAL JOURNALS FOR PHARMACISTS.—Pharmacists, as a rule, are studious, educated people, and, as such, are patrons of publications devoted to their profession. We desire to call their attention to the medical journals, which are also profitable reading for pharmacists. It is not our intention to recommend that all of the so-called medical journals be read, for we have sufficient experience in the editorial rooms to spare our readers any such momentous task. It is our idea that each druggist can profit by reading some one of the leading medical journals. It is scarcely worth while to advance any of the arguments in favor of such reading, for the benefits will soon be apparent to any druggist who devotes the time required to look over a reliable, medical journal.—*Meyer Bro.'s Druggist.*

POINTS BY JOHN WANAMAKER ABOUT ADVERTISING.—John Wanamaker says: "I never in my life used such a thing as a poster, or dodger, or hand-bill. My plan for fifteen years has been to buy so much space in a newspaper and fill it up with what I wanted. I would not give an advertisement in a newspaper of 500 circulation for 5,000 dodgers or posters. If I wanted to sell cheap jewelry or run a gambling scheme, I might use posters, but I would not insult a decent reading public with hand-bills. The class of people who read such things are poor material to look to for support in mercantile affairs. I deal directly with the publisher. I say to him: "How long will you let me run a column of matter through your paper for $100 or $500?' as the case may be. I let him do the figuring, and if I think he is not trying to take more than his share, I give him the copy. I lay aside the profits on a particular line of goods for advertising purposes. The first year I laid aside $3,000; last year I laid aside and spent $40,000. I have done better this year, and shall increase that sum as the profits warrant it. I owe my success to the newspapers, and to them I shall freely give a certain profit of my yearly business."—*Drug. Gazette.*

GEORGE D. ROSENGARTEN.—George D. Rosengarten died at his home in Philadelphia, March 18th, full of honors, having seen many years beyond the lot of mankind. His birthplace, in 1801, was Cassel, Germany, whence he emigrated in boyhood to our land, settling finally in Philadelphia, where he established a moderate-sized chemical laboratory, expanding from time to time with the demand for products. In November, 1885, the *Pharmaceutical Record* published his portrait, with a sketch of his business career. At that time he had retired from active business, his five sons continuing under the name it had then carried for quite a number of years —Rosengarten & Sons. His business career was marked with energy, not only for his own interests, but in public and charitable enterprises; and he leaves the honorable record of a distinguished citizen, a loved one in the household, a public benefactor, and a charitable friend.—*Pharm. Record.*

AN AUTOMATIC TABLET MACHINE.—We are indebted to Mr. R. M. Sommers, Eleventh and Berk Sts., Philadelphia, for the following illustration and description of a tablet machine which will doubtless interest our readers.



Tablets are found to be such a convenient method of medication that they will doubtless play an important part in the medication of the future.

This machine is designed for compressing dry powders into pills, tablets, lozenges, triturates, hypodermic tabloids, etc., of lenticular shape. It may be run by hand or steam power, and is entirely automatic in its action. It measures each tablet accurately, and of equal thickness and weight.

It is built from a new design, and contains improvements not found in any other pill or tablet machines. One of these features is the automatic cleaner and lubricator of the die before each tablet is compressed. It is strong, compact, simple in operation, and durable. The various parts are accessible and easily removed, and ample adjustment is provided. Every part of the machine is interchangeable, and the bearings are of hardened steel.

DRUGGISTS' BULLETIN

A MONTHLY EXPONENT OF

PHARMACEUTICAL PROGRESS AND NEWS.

VOL. IV., No. 5. DETROIT, MICH., MAY, 1890. $1.00 a year. Single copies, 10 cents.

THE DRUGGISTS' BULLETIN.
ISSUED MONTHLY.

EDITOR:
B. W. PALMER, A. M., M. D.

COLLABORATORS:
PRACTICAL PHARMACY.
J. LE ROY WEBBER, PH. G., LEON C. FINK.

CHEMISTRY.
F. A. THOMPSON, PH. C., J. B. NAGELVOORT, PH. G.

BOTANY AND MATERIA MEDICA.
H. H. RUSBY, M. D., G. SUTTIE.

PHARMACEUTICAL APPARATUS AND INVENTIONS.
J. B. RUSSELL, PH. G.

GEO. S. DAVIS, Publisher,
P. O. Box 470, DETROIT, MICH.

Articles designed for insertion in THE BULLETIN, subscriptions, advertisements, and all communications should be addressed to the publisher.

Editorial.

A VICTORY FOR STANDARDIZATION.

As we anticipated, the question of the standardization of toxic and narcotic drugs excited more active discussion at the recent meeting of the Convention for the Revision of the Pharmacopœia than any topic considered. In another column we publish notes of the remarks made by the chief participants in this debate.

It is evident from the views expressed and the decision arrived at, viz., (that the question of adoption of standardization, as far as it can be practically applied, be referred to the Committee of Revision), that the sentiment of the majority of the delegates was markedly in favor of the adoption of the standardization of all toxic and narcotic drugs which permit of being accurately assayed by the present known methods of assay. We can see but one meaning to this conservative and just decision, viz: The adoption of standardization as far as it is now indicated, and its gradual extension with the increase of knowledge of methods of assay which may be reasonably anticipated for the future.

The representative and judicial character of the Committee appointed, insures the adequate further careful and thorough weighing of the merits of standardization, and we firmly believe must lead to the endorsement and adoption of a reform, the principles of which have already been recognized and applied by the Pharmacopœia itself to some drugs, and thus approved of, and must consistently therefore be extended.

It is certainly gratifying to all interested in the higher and more perfect development of the pharmaceutic art to know that, notwithstanding the adverse, heated and in some cases venomous discussion of so vital a question which preceded the meeting of the Convention, the majority of a thoroughly typical gathering of the most intelligent physicians and pharmacists should in joint session divest themselves of all prejudice and declare themselves as advocates of progress. It cannot be gainsaid, also, that the steady and prolonged scientific work that has been done by our pharmaceutical educators, the colleges, the press, and thorough laboratory labor, have created aspirations in the minds of the most intelligent and, indeed, the influential majority of pharmacists, that achievement of higher ideals of pharmaceutical practice can only be reached by the struggle inseparable from all worthy attainment or desirable reform.

REPORT OF THE PROCEEDINGS OF THE CONVENTION OF 1890 FOR THE SEVENTH REVISION OF THE UNITED STATES PHARMACOPŒIA.*

It gives us pleasure to place before our readers a report of the interesting proceedings of the Convention for the revision of the Pharmacopœia, prepared for us by special correspondent of the BULLETIN.

Such important topics as Standardization, Pharmacopœial recognition of Proprietary Medicines, the Metric System, the Publication of the Pharmacopœia, were actively and ably discussed.

The Convention was called to order by the President, Dr. Amory, who made a welcoming address, in which he suggested in the interest of both professions, that the medical profession be allowed to select ten representatives, and the pharmaceutical profession ten, with one from each branch of the U. S. Service, who should Constitute the Committee of Revision and Publication of the Seventh Edition of the United States Pharmacopœia.

---

* Reported by special correspondent of the DRUGGISTS' BULLETIN.

The following Committee on Credentials was appointed by the President: Prof. George L. Magruder, Prof. B. F. Davenport, Dr. G. W. Sloan, Prof. S. P. Sadtler, Mr. A. E. Ebert, and Surgeon W. M. Mew. Pending the report of this Committee, the Convention took a recess.

In the afternoon much time was occupied in the acceptance of the report upon credentials, certain bodies being represented by credentials unaccompanied by certificates of incorporation. This matter being disposed of, a motion was then made that a Nominating Committee, composed of one member of each delegation, such member to be nominated by his delegation, be appointed. A spirited debate then ensued as to whether the nomination of the Committee of Revision should be presented by the Committee on Nominations, but after a long debate it was so ordered. The Committee was directed to meet at the Arlington Hotel at 7:30 in the evening.

The Nominating Committee organized at the appointed hour by the election of Dr. T. F. Wood as Chairman, and Mr. A. E. Ebert as Secretary. The nominations were as follows: President of the Convention, Dr. H. C. Wood, of Philadelphia (unanimous). Vice-Presidents—Mr. W. S. Thompson, of Washington; Dr. D. W. Prentiss, of Washington; Dr. J. M. Flint, U. S. N.; Mr. A. E. Ebert, of Chicago; and Prof. W. M. Searley, of California. Secretary, Dr. Hobart A. Hare, of Philadelphia. Assistant Secretary, Dr. G. H. C. Klie. Some hours were devoted to various propositions to save time in the nomination of the Committee of Revision, and at length the simplest and most natural method of balloting was adopted. The following gentlemen were elected by the casting of a single affirmative ballot by the Secretary, upon the instruction of the Committee:

Charles Rice, Ph. D., New York; Prof. James P. Remington, Philadelphia; Prof. F. B. Power, Wisconsin; Prof. P. W. Bedford, New York; Dr. W. M. Mew, U.S.A.; Dr. John Godfrey, U.S.M.H.S.; Dr. J. M. Flint, U.S.N.; Prof. J. M. Maisch, Philadelphia; Dr. Roberts Bartholow, Philadelphia; Dr. C. O. Curtman, St. Louis; Dr. F. A. Castle, New York; Dr. N. S. Davis, Jr., Chicago; Prof. C. L. Deihl, Louisville, Ky.; Dr. R. G. Eccles, Brooklyn, N.Y.; C. Mohr, Ph.D., Mobile, Ala.; Prof. G. F. H. Markoe, Boston; Prof. Oscar Oldberg, Chicago; Prof. L. E. Sayre, Kansas; Prof. Otto A. Wall, St. Louis; Dr. Thomas F. Wood, Wilmington, N.C.; Dr. H. H. Rusby, New York; A. B. Taylor, Philadelphia; Dr. R. T. Edes, Washington, D.C.; Prof. C. S. Hallberg, Chicago.

The remainder of the day, and part of the following day, was occupied in considering various recommendations for changes in the Pharmacopœia, and the following were adopted. [For discussion of these questions, see page 150, this number of the DRUGGISTS' BULLETIN.]

General Directions.—" The Committee of Revision, etc., is directed to follow the general principles adopted by the Convention in 1880, so far as the same are not modified or superseded by special directions in the succeeding paragraphs."

Assay Processes for Drugs.—" It is recommended that assay processes be appended to the descriptions of the more energetic or otherwise important drugs containing active principles, provided the therapeutic value of the drug depends upon the amount of these principles, and provided, also, that these principles can be assayed and identified with reasonable accuracy and without requiring complicated processes. The Committee may attach a note stating the usual percentage of these active principles in good commercial samples of the drug, and, if it be found feasible, it may attach a requirement that the drug shall not be used unless it conforms to the stated limits."

Assay Processes for Galenical Preparations.—" The Committee may attach assay processes to such Galenical preparations as fluid extracts, tinctures, etc., but it shall omit requirements of a definite strength or percentage of active principles except in the case of drugs for which an upper or lower limit, or both, of active principles is prescribed."

Assay Processes for Opium and Cinchona.—" In the case of opium and cinchona, the Committee shall adopt such processes of assay as will be found to yield the largest proportion of the desired active principles with greatest uniformity and with least manipulative difficulty, the object of these processes being to ascertain how much of the respective principles can practically be extracted."

Descriptions of Chemicals and Tests.—" In the case of chemicals, the degree of purity, or the allowable percentage of impurity, shall be prescribed as closely as practicable. The standard of purity shall be set as high as practicable for legal enforcement, but not beyond a point reasonably attainable by the manufacturer without subjecting any particular product to unnecessary cost through the enforced removal of some harmless and insignificant accidental impurity."

Chemical Formulas.—" Chemical formulas shall be given only in the new notation."

Proprietary or Patented Articles.—" No substance which cannot be produced otherwise than under patented processes, or which is protected by proprietary rights, shall be introduced into the Pharmacopœia."

Nomenclature.—" In the choice of titles of official articles it is recommended that convenience, established custom, and considerations of safety against mistakes, through similarity of, or changes in, names, should outweigh purely theoretical considerations or scientific preciseness."

Specific Gravity.—"It is recommended that the Committee define the exact degree of temperature of the standard by which other specific gravities are to be determined and stated by the Committee, so far as it may be practical, on the basis of the established temperature and other conditions of the standard."

General Formulæ.—"It is recommended that general formulæ be introduced for fluid extracts, and that the general formula to be followed in any particular case be merely indicated by reference."

List of Reagents, Tables, &c.—"The tables and list of reagents authorized or prescribed for the Pharmacopœia of 1880 shall also be inserted in that of 1890, with such corrections or substitutions as may be required to bring them up to date."

Weights and Measures.—"It is recommended that the next Committee on Revison be instructed to direct solids to be weighed and liquids to be measured."

Publication of the Pharmacopœia.—"It is recommended that the Committee of Revision, etc., which will be elected by the Convention of 1890, be authorized to print and publish, on its own account, the seventh decennial revision of the Pharmacopœia of the United States of America."

Note for the Pharmacopœia to go into effect.—"The Committee shall announce in a conspicuous place, in the printed work, a definite date, reasonably distant from the actual date of publication, when the new Pharmacopœia is to go into effect, and to supersede the preceding one."

Compensation of Experts.—"It is recommended that the Convention of 1890 instruct the Committee of Revision, etc., to pay the experts and others employed in the preparation and publication of the seventh decennial revision of the Pharmacopœia."

It was shown that out of the publication of the previous Convention the publishing houses had cleared a net profit of $65,000, and it was thought that this fund could become as acceptable in the Association's treasury as in the publisher's pocket. These statements met the approbation of many of the delegates, and the Revision Committee was directed to take charge of the publication, and the paragraphs referred to were adopted.

A resolution was offered in reference to the organization of the Committee for 1900, and a committee of seven was created for the purpose of considering the ways and means of establishing that Committee.

Doctor F. A. Castle, of New York, Professor J. P. Remington, of Philadelphia, Mr. H. M. Whelpley, of St. Louis, Mr. C. P. Pengra, of Boston, Doctor S. C. Busey, of Washington, Mr. A. E. Ebert, of Chicago, and Mr. W. M. Searley, of California, were selected.

Friday it was moved that the Treasurer of 1890 be authorized to pay over to the Treasurer of the revision Committee of 1900, all such monies as accrue from the Pharmacopœia. Also that the Committee of Revision of the Pharmacopœia may pay such bills as are approved by the Committee. Resolution adopted. The financial report showed a cash balance on hand of $2,878.50.

A resolution was proposed that no commentary or other work be allowed to publish any matter contained in the Pharmacopœia, followed by an amendment that the Committee be authorized to sell the text of the Pharmacopœia at such price at they may determine. Dr. Hare remarked that in his opinion we might as well copyright the Constitution of the United States and say that we would not have any right to make abstracts of the Constitution of the United States, and then say that nobody shall make any quotations from those publications. The question was finally laid upon the table.

Prof. Mendenhall, of the United States Bureau of Weights and Measures was introduced and made some pertinent and instructive remarks on the metric system.*

At the close of this address the thanks of the Association were tendered, and a spirited and instructive debate followed. The discussion was almost solid in favor of the adoption of the metric system. The clause favoring such adoption, was, however, evidently not satisfactory to many members, and was finally modified as follows: "It is recommended that the next Committee of Revision be instructed to direct solids to be weighed and liquids to be measured, *except in such cases as the Committee find it advisable to use weight only, and that the metric system be employed.*"

Dr. Chas. Rice now took the floor and moved a reconsideration of the vote by which the recommendatory sections referring to the assay of drugs had been referred to the Committee. No debate followed, and the motion was lost by an almost unanimous vote.

One of the most interesting incidents of the entire Convention now occurred. Prof. J. P. Remington rose, and alluding in the most graceful and touching manner to the faithfulness and industry of the Chairman of the past Committee of Revision, excited a perfect storm of applause on the presentation of a motion that the sum of $1,000, be tendered Dr. Charles Rice for the eminent and faithful services which he had rendered to this Association. Dr. Rice declined earnestly to be the recipient of this donation, as he was modest enough to call it, at the same time he expressed the highest appreciation of the honor conferred upon him. Various members spoke upon the subject and insisted that Dr. Rice should accept the money tendered him. He, however, again stated that he positively declined, and would not under any circumstances accept. The President of the Convention now declared emphatically that Dr. Rice was out of order; that it was a general parliamentary rule that when any legislation affecting the personal interests of any member was pending, such member could not properly remain in the room. The motion was then carried and a round of applause succeeded which for sometime bade fair to prevent the transaction of further business before the hour of adjournment should arrive. As soon as possible Dr. Rice obtained the floor and stated he wished to say, that while the Committee must obey the instructions of the Convention, that nothing could prevent him from returning the check with his endorsement to the Committee.

---

* Prof. Mendenhall's remarks on the Metric System are published on page 149, of this number of the BULLETIN.

After the transaction of some business incident to the closing moments of the Convention, a motion to adjourn prevailed, and the great Convention of 1890 for the seventh revision of Pharmacopœia of the United States of America, passed into history.

A POINT IN INSURANCE LAW OF INTEREST TO DRUGGISTS.*

The Law of Insurance, while yet in a comparatively embryotic state, is gradually being evolved by the slow process of judicial interpretation.† The next generation will probably possess as complete a codification of determined legal principles governing the underwriter's agreement as the present generation enjoys concerning Real Property or ordinary Contracts.

A great obstacle, however, in the way of speedily settling the yet undetermined principles, lies in the reluctance of policy-holders to involve themselves in the uncertainties, perplexities, and expenses of legal controversy, and the consequent inclination to permit Insurance Companies and adjusters to be a law unto themselves, and to accept with meek submission whatever these magnates conclude to graciously grant. It may be set down as an established rule that the Insurance Companies will demand every thing to which the inexhaustible resources of sophistry will give a color of reason.

But sophistry is not law, and the courts, when given the opportunity by a policy-holder who has stamina enough to defend his rights in the judicial arena, will very quickly supplant the cunning sophisms of glib adjusters working for a per cent. of salvage, with sound, healthy, legal axioms.

The measure of indemnity was the battle-ground in the case of *The Mansfield Drug Co. vs. The Ætna Insurance Co. et al.*, just decided in the United States Circuit Court of West Tennessee. The plaintiffs had certain insured goods which had been manufactured by themselves, destroyed by fire. They contended that they were entitled to collect for these goods that sum of money which it would require to replace them on their shelves after the fire by a purchase of them in the market, precisely the measure of indemnity to be allowed them as to all other goods. The defendants insisted, on the other hand, that they were liable only for the actual cost of the production of the articles burned; that the difference between this cost and the selling prices represented the "profits," and that the policy did not insure such profits.

The position of the Companies, while, as we shall see, not tenable, was nevertheless very plausible, and we have no doubt that many losses have been adjusted without controversy upon this basis. It is interesting to note how very thin the claim appears in the light thrown upon it by the logical reasoning of the eminent jurist who decided the case.

"It is conceded," he says "that if those medicines compounded by the plaintiffs had been found in the stock of goods burned next door to the plaintiffs that would be the correct measure of indemnity for that merchant, but not for this—for him who made them. The established market price of the medicines may be recovered in the hands of all other dealers, but in the hands of the original druggist who compounded them, *the very same words of this policy* mean something else, and do not mean that which they are confessed to mean elsewhere. It seems, then, to be a misfortune that one should keep on sale the finished products of his own handiwork, since the insurance policy means a different measure of indemnity to him than to others who keep the same products for sale—less for him, more for them." The judge then proceeds to demonstrate the impracticability of determining the actual cost of production, since many elements enter into the calculation not easily divided and apportioned to different articles manufactured, as interest, insurance, taxes, general expenses, etc., etc., and then continues: "Shall we, then, introduce this novel measure of damages by implication into insurance policies upon any distorted notion of the principle that it is only indemnity that we are seeking, and that this is full indemnity? Suppose this should be conceded, who can say that, when all the elements of value are hunted up and fairly included in the estimate, it would be less than the market value of the same product in the hands of the wholesale dealers and jobbers? It might be more, for not all products bring always in the market the cost of production—and, in the law of economics, production does not always cease because this is so. Now, would the insurance companies *pay more, if in the given case, for particular reasons, the cost of production exceed the market value?* If not, why not, on this new doctrine in insurance law? The insurance companies surely can not indemnify with the market price where that is less than the cost of production, and with the latter when it is less than the market price. * *

* Drug establishments are expected to compound medicines, and it is a fair implication that in terms the policy promises to pay the cash value of these com-

---

*By Charles M. Woodruff, of the Detroit Bar.

† This statement is true, notwithstanding that three or four text-books, written by Insurance Attorneys, and decidedly leaning toward the Underwriter's side, are extant.

pounded drugs called "medicines," as "medicines" or compounds, and not as drugs, and not the cost of compounding only, but the value of the compounded articles. If they had meant the cost of compounding only, the contract should have expressed it explicitly."

Apparently relying upon the opinion expressed in a recently published text book upon the Law of Insurance, the attorneys for the Companies laid great stress upon the point that "profits" are not insurable, and all that the plaintiffs realized over the cost of production was "profits." This the Court held to be a confusion, if not a distortion, of the principle. The true explanation of the principle is "that the profits a dealer expects to realize by sales are not included in the estimate of his insured values, because, when the article burned has been replaced by purchase, the profit to be realized by sale may yet be made, and so he is fully indemnified by the actual cash value to him at the time of the fire, and it would not require for his indemnity the value there would be upon a sale by him to his customers. But, obviously, it seems to the Court, this means the profits to be found between the purchasing price or cost of the finished article, and the selling price, or value of the same finished article in the hands of the dealer who suffers by fire—and not the profits which lie between the raw material and the finished product in the hands of the same dealer, be he at the same time a manufacturer and a dealer in the finished article, or not. * * * *The Mansfield Drug Company, after the fire, was under no obligation to resume the compounding of these medicines, buy a new plant, rent a new house, hire new laborers, etc., in order to replace by actual manufacture, or compounding these goods, at a less cost than it would take to buy them in the market, so as to ease the insurance company on the loss; but the insurance companies were bound to replace them by purchase in the market, or, what is equivalent to that process, pay the Drug Company the money that would enable them to do that thing.*"

In commenting upon this decision, the *Oil, Paint and Drug Reporter* selects the extract given below as the gist of the judge's opinion. While it is true the extract is very pithy, it can hardly be called the "gist" of the opinion, since neither skill nor art can enter directly into the consideration of the amount of indemnity. For example, when, as before stated by the learned judge, the actual market value had become less than the cost of production, the rule would be the same—the market value would rule, regardless of "skill" or art.

"Learned counsel say it is incomprehensible how three jars of drugs, worth altogether, say $5, may be 'mixed' into one jar and then be worth, say $15. If the mixture makes a medicine which the public values so highly that it will buy it at $15, then it is worth that sum, and if burned it would seem that it would be worth that sum to every dealer, except to him whose skill as a pharmacist and druggist, or 'medicine man,' discovered and accomplished the mixing. Like the artist who insures his paints, oils, artists' goods and paintings, if his pictures be burned he does not get the price of oil and paint and canvas, but of pictures; not the price his fond conceit may fix, but that which an appreciative and eager public will give for his work, albeit it goes up to thousands of dollars and hundreds of thousands. The insurance companies know this, and must affix the premiums accordingly, and they do. If they do not, it is their own concern and fault. Because the artist can reproduce his burned picture, if he can, should he have less than the public would have valued it and paid for it? Or should any dealer in pictures have less because he happens to be an artist and may make more pictures? The argument eliminates and denies to the compounder of the 'medicines' the elements of his skill as a pharmacist, or as a dealer skillful in, 'humbugging' it may be, a too credulous public always ready to dose itself with that which promised even to cure its ills. However artificial this value may be, if it exists in fact, the insured may recover it."

PRESCRIPTION ECCENTRICITIES OF "YE OLDEN TIME" AND THE PHARMACY OF THE FUTURE.

The extraordinary ingredients which have entered into the prescriptions of a physician are very numerous. The list of items known as simples alone, in some of the earlier Pharmacopœias, would considerably astonish the prescription clerk of to-day, and nearly every recipe consisted of multitudinous ingredients. Polypharmacy was considered scientific, and unless a prescription included at least ten ingredients, the prescribing physician was regarded as a quack. As an instance of this, one of the old Paris Pharmacopœias contains a formula for a plaster, consisting of sixty ingredients; while for a distilled water, more than 120 items are enumerated. The sign ℞ is a modification of the zodiacal sign for the planet Jupiter, and a prescription to be written without such sign, was equivalent to allowing a patient to die, by reason of that deity not supervising the compounding of the formula—which was sure to be correctly made up, if Jupiter was invoked.

The animal, vegetable and mineral kingdoms were all placed under levy for contributions to the Materia Medica. The most remarkable and disgusting items were considered valuable for healing purposes. Even man provided his quota, one formula extant demanding "the moss from the skull of a man who had been hanged." Numerous examples might be quoted of extraordinary ingredients, but a remarkable fact is, that the favorite prescriptions were excrementitious products, and were administered with the object of imparting to the generative organs tone, lost by either abuse of the functions or by wine.

The druggist of the by-gone days was by no means considered as belonging to an honorable profession. His business largely consisted of providing poisons for the use of those wishing to rid themselves of troublesome relatives and friends, or to dispose of their own existence in this vale of tears. Shakspeare exemplifies in "Romeo and Juliet" a specimen of the apothecary of 400 years ago; and a drug store of to-day, with its mirrors, handsome show-cases, and glassware and druggists' sundries (not to mention the soda fountain and cigar counter), would somewhat astonish the druggist of our forefathers. On the Continent of Europe, notably in France and Germany, dispensaries were established in most of the large cities, and a garden was often appropriated, at public expense, to the apothecary, for the cultivation of such indigenous plants as he required.

The apothecary often was employed to act as a medical man, and we find that King Edward III gave a pension of sixpence per day to a certain apothecary for taking care of and attending His Majesty during his illness in Scotland—a remuneration quite considerable in those days.

Eccentricities in prescriptions are, happily, now-a-days, rare; and the physician of the present is daily growing more satisfied to look to simplicity rather than polypharmacy in his remedies. Perhaps the only instance now extant of the use of numerous ingredients is the item *Confectio Damocratis*, which enters into the composition of Warburg's Tincture. This is certainly a formidable preparation to make, consisting, as it does, of forty-five ingredients (Lond. Ph. 1749), but it is questionable whether it is to-day made as directed, as it will be difficult to secure such *valuable* ingredients as the "bellies of skinks," etc.

It would be interesting to know what our descendants will think of our methods and pharmaceutical literature. In the realm of Nature, nothing can stand still; it is perpetually either progress or regress, and pharmacy can surely never retrograde, when so great interest is displayed in the advancement of this art. The past decade has probably been the most valuable in the history of pharmacy, by reason of the additions made to the Materia Medica. That yet further progress must follow it is needless to say, and as the vegetable, animal, and mineral worlds are teeming with agencies of which we know little or nothing, the future of chemical and pharmaceutical products will doubtless be more marvellous than the past.

Were every druggist and student to systematically examine some of the common flora around him, what discoveries might be made for the benefit of the human race, not only for this day and generation, but for all time to come!

The name of Pelletier will be remembered as that of the discoverer of quinine through future years; Sertürner will always occupy a niche in the temple of fame by his side, as the isolator of morphine. The pedestals for the statues of the great ones, whether as discoverers of continents or of pharmaceuticals, are by no means yet filled, and all should try what can be done in all directions which will aid in ameliorating the conditions of disease as it exists in the human race.

SOME ETHICAL AND LEGAL ASPECTS OF PHARMACY.

It is gratifying to note that, intimately associated with the commercial and material growth of pharmacy that has signalized the last decade, there has been developed an *esprit de corps*, an enthusiasm for the elevation of this art, which is auspicious of its successful attainment in the near future of its true status among the professions, and in the esteem and appreciation of the public who are dependent on its beneficent ministrations for health, and often life.

A manifestation of this has been clearly shown in the efforts made for enforcing higher educational requirements for pharmacists, and in the general tendency apparent in current pharmaceutical literature to encourage the observance of such laws and ethical rules as shall make its practice as respected and honored as that of its medical, clerical, or legal confrères.

For illustration, one need only glance through the recent numbers of our representative pharmaceutical journals, as well as the medical and scientific publications allied to this art. In one of these we find a scholarly article entitled "The Inherent Rights of Pharmacy."* In discussing this topic the author makes an earnest plea to establish a better relationship between medicine and pharmacy.

"Humanity must be controlled by the broad general laws of good fellowship, and I plead that pharmacy may be so governed. The abominable abuses and practices, derelictions and deficiencies, can all be readily righted by rigid and intelligent discipline. The unmanly and fawning bearing, undignified and inconsistent positions, can all be suddenly changed by proper and kindly recognition and encouragement. And nothing would seem to so greatly help to bring about and establish a better, a truer relationship between medicine and pharmacy, as a better, truer Pharmacopœia.—A Pharmacopœia that would be more than a guide book to compounders; one which would show an improved Materia Medica and better manipulation; one which, while holding fast to the old, would add to it the new, thereby making a record of pharmaceutical advancement. One comprehensive enough to serve the old and young, the conservative and progressive practitioner, alike. One competent, complete revision every half century, a supplement of additions and improvements every decade. From medicine—respectful and exclusive adherence. From pharmacy—patient and conscientious following."

---

* "The Inherent Rights of Pharmacy," by Henry P. Hynson, Lecturer on Pharmacy, College of Physicians and Surgeons, Baltimore, Md. (Reproduced in Abstract columns of this number of the BULLETIN from the *Pittsburgh Medical Review*, April, 1890.

⁂

In the *Druggists' Circular* for April, F. E. Stewart, M. D., Ph. G., presents his sentiments as to the proper code of Pharmaceutical Ethics:

"As the preparation of medicine must ever be subsidiary to its application to the cure of disease, it necessarily follows that pharmacy must find its true advancement as a science and an art, not in direct service to an unenlightened and unappreciative public, but in following the demands of progressive and scientific therapeutics, as practiced by an educated medical profession. It is apparent, therefore, that pharmacy should be regarded as a part of medical science, and its practice a medical specialty. For this reason the pharmacist and physician should be associated on terms of mutual interest and greatest harmony; and, as far as possible, each should refrain from encroaching on the domain of the other.

"The manufacture and sale of medicine should be thrown open to legitimate competition, unprotected by trade names and trade secresy. This once accomplished, and legislation enacted and enforced to protect the public from incompetency in this department, the question would be no longer one of unfair monopoly, but competition in the devising of improved methods and means.

"We hold that every new medicinal preparation introduced should be designated by a technically correct name compatible with scientific nomenclature, under which every pharmacist shall be free to make and sell it; and we also hold that physicians who make it a rule to prescribe secret or semi-secret preparations, and those introduced under proprietary and trade names, no matter how valuable the remedy prove to be therapeutically, can do so only in violation of their trust as conservators of medical science and ethics.

"It is a well known fact that drugs are adulterated to an alarming extent; and it is also a fact that enormous quantities of drugs are placed on the market, generally in the powder form where difficulty of detecting fraud is very great. In our opinion stringent methods of reform are called for in this connection.

"As the art of preparing and dispensing medicine requires special knowledge and experience, and the profession of pharmacy is one of great self-sacrifice and responsibility, those who follow this vocation should command the high esteem of the community, and should be protected by laws removing them from the ordinary competition of trade. For this reason, we advocate the enactment of laws restricting the vocation of preparing and dispensing medicine to those who are fitted for their responsible calling by proper education and training.

"Even when care is taken in the selection of drugs, physical appearance alone is not a sufficient test of their activity. The variability in strength in the case of such drugs as opium, belladonna, cinchona, and the like, in samples of excellent physical appearance, is often as high as two or three hundred per cent. It is manifest, therefore, that the medicinal effects of drugs must vary in equal proportion. We therefore advocate the study of methods for assaying drugs, and the introduction of standardized preparations into the Pharmacopœia."

⁂

As to the legal aspects of pharmacy there are already in many States, laws enacted tending to the purification and elevation of pharmacy, and much is hoped for in this direction by further and uniform legislation as to essential educational, and pharmaceutical acquirements.

The following laws in force in the State of New York, will inform our readers as to what is being done in the most progressive States.

"An apothecary, or druggist, or a person employed as clerk or salesman by an apothecary or druggist, or otherwise carrying on business as a dealer in drugs or medicines, who in putting up any drugs or medicines, or making up any prescription, or filling any order for drugs or medicines, wilfully, negligently or ignorantly omits to label the same, or puts any untrue label, stamp or other designation of contents upon any box, bottle or other package containing a drug or medicine, or substitutes a different article for any article prescribed or ordered, or puts up a greater or less quantity of any article than that prescribed or ordered, or otherwise deviates from the terms of the prescription or order which he undertakes to follow, in consequence of which human life or health is endangered, is guilty of a misdemeanor.

"An apothecary or druggist, or a person employed as a clerk or salesman by an apothecary or druggist, or otherwise carrying on business as a dealer in drugs or medicines, who sells or gives any poison or poisonous substance without first recording in a book to be kept for that purpose, the name and residence of the person receiving such poison, together with the kind and quantity of such poison received, and the name and residence of some person known to such dealer as a witness to the transaction, except upon the written order or prescription of some practicing physician whose name is attached to the order, is guilty of a misdemeanor.

"A person whose duty it is by the last section to keep a book for recording the sale or gift of poisons, who wilfully refuses to permit any person to inspect said book upon reasonable demand made during ordinary business hours, is punishable by a fine not exceeding fifty dollars.

"A person who sells, gives away, or disposes of any poison or poisonous substance (except upon the order or prescription of a regularly authorized practicing physician), without attaching to the vial, box or parcel containing such poisonous substance, a label with the name and residence of such person, the word "Poison" and the name of such poison, all written or printed thereon in plain and legible characters; and a person who, after the first day of January, eighteen hundred and eighty-seven, sells, gives away or disposes of, or offers for sale, any sulphate or any other preparation of opium or morphine, except paregoric and those preparations containing two grains or less of opium or morphine to the ounce, without attaching to the bottle, vial, box or package containing such sulphate or other preparation of opium or morphine, a scarlet label lettered in white letters, plainly naming the contents thereof, with the name and residence of such person, is guilty of a misdemeanor.

"No person employed in a drug store or apothecary's shop shall prepare a medical prescription unless he has served a two year's apprenticeship in such a store or shop, or is a graduate of a medical college or college of pharmacy, except under the direct supervision of some person possessing one of these qualifications; nor shall any proprietor or other person in charge of such store or shop permit any person not possessing such qualifications to prepare a medical prescription in his store or shop, except under such supervision. A person violating any provision of this section is guilty of a misdemeanor punishable by a fine not exceeding one hundred dollars, or by imprisonment not exceeding six months; and in case of death ensuing from such violation, the person offending is guilty of a felony punishable by a fine not less than $1000 nor more than $5000, or by imprisonment not less than two years nor more than four years, or by both such fine and imprisonment.

An Act to regulate the sale of morphine by druggists and apothecaries in this State.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

From and after the passage of this act, no pharmacist, druggist, apothecary or other person, shall refill, more than once, prescriptions containing opium or morphine or preparations of either, in which the dose of opium shall exceed one-fourth grain or morphine one-twentieth grain, except with the verbal or written order of a physician.

Any person violating the provisions of section one of this act shall be deemed guilty of a misdemeanor, and shall, upon conviction thereof, be fined not less than ten dollars nor more than twenty-five dollars, in the discretion of the court, for each and every such offense.

* * *

An insane asylum at Longue Pointe, P. Q., near Montreal, was burned recently; and it is feared that nearly one hundred of the inmates perished. A few days later an asylum for idiotic persons in New York State was burned, several persons losing their lives.

Original Articles.

PRACTICAL PHARMACY.

AN IMPROVISED STILL.

BY A. L. JOHNSON, PH.B.

The sentiments expressed in a recent issue of the Bulletin, to the effect that "Genius consists in doing much with little," and that one "with a pan may accomplish a great deal in pharmacy," recalls a personal early experience which I may cite as illustrative, at least of the latter, of these teachings. Incidentally, also, this experience affords a somewhat suggestive commentary on the mooted question of standardization.

At the time of which I write, I was serving an apprenticeship in a small pharmacy in Quebec, and, being recently out of school, possessed only a reading acquaintance with current theories on percolation and repercolation. I was likewise anxious to put my reading knowledge to the test, and at the same time, it may be, to commend myself to my employer. I therefore resolved to do a little manufacturing, and particularly to make a line of fluid extracts to take the place of those ordinarily obtained from the wholesaler.

One of my first ventures was with the extract of belladonna leaves. I procured ten pounds of drug of certified quality, and proceeded with great care to the first steps of its exhaustion. I moistened the leaves carefully with 75 per cent. (volume) alcohol, and allowing to stand the stated time, packed firmly in a glass percolator, observing all published directions.

The thoroughly saturated drug was macerated several days, and percolation then allowed to proceed, a drop at a time, in the slowest possible manner. After some two weeks of this treatment, I had eight pints (Imp.) of extract, of good color and odor, which I was positively certain represented the drug, ounce for ounce. My employer expressed himself as well pleased, and I felt that my position and reputation were assured.

With the purpose of adding further to my success, and proving beyond possible question the accuracy and economy of my operation, I sent a sample of the drug, which I had purposely preserved, and an ounce or so of the fluid, to my old instructor at college, and requested that he make an assay of the same and give me the results. I was confidently expecting further congratulations, when, to my great surprise and chagrin, the report came that my extract had only 0.19 per cent. atropine, while the drug contained something like 0.45 per cent., showing that it was little better than half exhausted, and that my "fluid extract" was, indeed, of hardly semi-normal strength.

This report quieted somewhat my outward enthusiasm as a manufacturer, and I hardly cared, under the circumstances, to ask for a fresh supply of drug or for alcohol to exhaust it; but I was determined all the more to bring the present extract to the proper strength, and especially now that I had the above data to work upon.

The question necessarily became, then, one of reduction. I was anxious to recover the surplus alcohol, and, as we had no still, I was compelled to improvise one for the occasion.

The still consisted, essentially, in a bottle, a funnel, and a coil of rubber tubing. I fitted a short piece of stout rubber hose over the neck of a small-mouthed five-pound bottle so that it would project about half an inch. A small tin funnel with a coil of rubber tubing attached was now pushed down over this hose till a tight joint was formed. The bottle filled with extract was then lowered into a kettle of cold water which was placed upon the stove. Three or four half-inch wooden stringers were held by rubber bands to the upper surface of the small funnel, and another funnel large enough to reach below the water in the kettle was placed over funnel No. 1, so as to rest upon the stringers, and with the rubber coil passing through its neck. It was weighted down in this position and thus served as a steam jacket for the "still."

As a condenser, I utilized an old demijohn with the bottom out, by inverting and tying to its mouth a perforated cork fitted to the lower end of the rubber coil. The supply of cold water was easily regulated by adjusting the water tap to an out-flowing siphon, and the water in the kettle being gradually brought to the boiling point, before very long the alcohol was in process of recovery.

As a matter of fact, I recovered 5 pints of alcohol from my 8 pints of fluid. Then, evaporating the remainder on the water bath to a volume of about 1 pint, I added sufficient alcohol to make a final yield of 4 pints of what proved to be a clear, bright extract, and that gave upon subsequent assay 0.4 per cent. alkaloid—an average quantity present in good drug.

DETROIT, MICH.

STANDARDIZATION IN WEIGHTS AND MEASURES.

BY PROF. MENDENHALL.*

Mr. President, Ladies and Gentlemen:

It gives me very great pleasure to be afforded opportunity to speak to you upon a subject which I know is of hardly less interest to you than it is to me—the subject of standard weights and measures.

I am sure you do not need any instruction from me on the metric system; that is, you probably know as much about it as anyone does. It abounds in absurdities, in complexities, and in a great many other things that are altogether disagreeable.

I mean to say, that the customary system of weights and measures in the United States is founded on no scientific basis, and is, therefore, as inconvenient and illogical as it can well be. It is perhaps well known to all of you that it is not even as good as the English system of weights and measures; within the last fifty years the English have improved their system of weights and measures. Now everybody, I think, who has been interested in weights and measures in this country, has been looking for many years to the final adoption of a more rational system. That is to say, the metric system; not the French system specifically, but the *metric* system; and I want to say something about the recent progress along this line in the direction of the introduction of the metric system.

You know that the United States was one of the first nations to receive copies of the metre. We have in the archives of the Office of Weights and Measures what is known as the "committee meter," which is of great historical interest. This bar also antedates the meter of the archives. It was one of fifteen bars that were prepared, and from the study of which the metre of the archives was finally obtained. Congress has never established a system of weights and measures, but established a system of coinage at a very early date. The first step that looked to the actual introduction of the system in this country, came in the year 1866, when a law was passed by Congress requesting the use of the metric system in this country, and establishing certain approximate relations between the metric and the custom system. I want to simply empasize one fact, and that is: To-day the metre and the kilogramme are the only units that have been established by Congress for the whole country.

It is often thought, and assumed, that the yard is a legal unit of length, and that the pound is a legal unit of mass. This is not the case. The troy pound, which is used in Philadelphia at the mint, was established by an act of Congress as the legal unit of coinage. The avoirdupois pound has never been established as a legal unit. The yard has never been established as a legal unit; only the Treasury Department has adopted the yard as a unit of length. As the result of a law passed by Congress in 1885, laws were passed in all States of the Union adopting these as the standards of length and mass in the various States, so that our legislation so far as the customs are concerned, is, a complete failure to establish any standards of length and mass; and we have this curious fact, that in some States there are very severe laws punishing persons for using wrong weights and measures, although no weights and measures have been adopted as the standard; so you see that this legislation is very curious at the present time.

---

* Delivered before the Seventh Decennial Convention for the Revision of the U. S. Pharmacopœia, Washington, D. C., May 8th, 1890.

In 1866, Congress passed the general act legalizing the metre and the kilogramme all over the country; therefore I say the metre and the kilogramme are the only standards that we have to-day. Without alluding to various measures that were taken between 1866 and the present time, I want to trace briefly the growth, or the origin and growth, of the International Bureau of Weights and Measures.

In 1869, the French Government invited many other Governments to send delegates to Paris in order to join in an International Bureau of Weights and Measures that might agree on the construction of new National Bureaus. That is to say, the old metre of the archives, which is still preserved, was, from its form of construction, and the material from which it was composed, recognized as being an unstable standard. Therefore the French very early concluded that it might be well to construct a new metre which should be first in authority the world over. Now from that time to the present—that is, to about six months ago—this International Bureau of Weights and Measures has been supported by payment from the various nations. The United States has about forty or fifty thousand dollars invested in this thing. This had gone on for several years, until finally the International Standard was proposed, and the result of that is, that we now have a *new* International Standard. Copies of these were made, and distributed to the various nations of the world. Two metres were distributed to the United States, and also two kilogrammes. One of these was brought over from Paris to Washington, and deposited in the archives of the Office of Weights and Measures, under seal. On the 2d of January, 1890, these measures were taken to the Cabinet room in the Executive Mansion, and the seals broken by the President of the United States, witnessed by the Secretary of State and the Secretary of the Treasury, and other gentlemen who were invited from various parts of the country. Knowing that you will be interested in seeing just how they will actually look, I have had models constructed, the composition of which is 90 per cent. platinum and 10 per cent. iridium; length, 102 centimetres. The kilogramme, constructed with great simplicity, is small and slender, and also made of platinum 90 per cent., and 10 per cent. iridium. I want to say that I have prepared in the Office of Weights and Measures a table, which I have here, for converting the customary weights and measures into our present (new) system. This is said to be the most convenient table that has ever been issued. I can vouch for one feature, and that is its accuracy. I would say that copies of this table can be obtained, and I shall be very glad to furnish them without cost to any of the members who wish, if you will address me at the Office of Weights and Measures.

NOTES OF THE DISCUSSION OF STANDARDIZATION—PHARMACOPŒIAL RECOGNITION OF PROPRIETARY PREPARATIONS—PUBLICATION OF THE PHARMACOPŒIA, ETC.

Prof. E. L. Patch, referring to the Assay of Drugs, moved two amendments, making the concluding clause read as follows: "The Committee may attach a note stating the *usual* percentage of these active principles in good commercial samples of the drug, and, if it be found feasible, it may attach a requirement that the drug shall not be used unless it conform to the stated limits."

Dr. Chas. Rice, of New York, then remarked as follows on behalf of the Committee:

"Everyone knew that it was necessary in the case of powerful drugs that we should know the strength of the final preparation, but it had only been found necessary that we should have standards for the final preparations of opium and cinchona. The difficulty was that while starting with the crude drug, we had the right to assume that any alkaloids extracted from it were those which probably existed in it, and had not been surreptitiously introduced, yet this was not true of a preparation made therefrom, nor of the drug in a powdered condition. In such cases it was, perhaps, not possible, with our present knowledge, to state positively that some foreign substance had not been introduced. We could know that we had something, but we could not say that something else was not present with it. Hence the druggist purchasing a preparation and selling it under State laws imposing a penalty for violation of a required standard, must either make the preparation himself, or purchase it with the guarantee of its standard, holding himself blameless should such be found not to be the case, and a suit be brought. For these reasons they have been in Europe, perhaps, more conservative than we propose to be here."

The amendments of Prof. Patch were then adopted unanimously.

Upon resolution, the whole report was then read by sections and further discussed.

Dr. Rice again took the floor, and declared that there was no chemist in the United States who was able to take the alkaloidal precipitate obtained from a Galenical preparation, of the preparation of which he was ignorant and could not state with absolute certainty its exact composition.

Dr. R. G. Eccles, of Brooklyn, followed with an excited argument in opposition to standardization. He held, that to adopt a maximum dose for preparations, was to give the large manufacturers a good opportunity to cheat the druggist. He did not believe that it was possible to discuss this question before such a large body so as to go into extended details. It was then moved that sections referring to the assay of drugs be submitted to the Committee of Revision as they now stand.

Prof. C. S. Hallberg moved to strike out the section relating to assay processes for Galenical preparations, and to make an amendment to that relative to the assays of opium and cinchona, to the effect that a minimum and a maximum standard be fixed for the tinctures of these two drugs. He did not believe that we were able at this time to compel the Committes to take such action. He referred to a number of drugs whose preparations he believed did not admit of assay, and he was therefore opposed to adopting standardization in the case of those preparations.

Dr. J. R. Atkinson, of Baltimore, pointed out that ample provision for such cases were made by the first named section as it stood. It did not direct that the Committee should do anything, but simply allowed them in their discretion so to do.

Prof. J. P. Remington emphasized this fact, calling special attention to the fact that the word "may" was used. He believed that that clause fully protected the interests of both professions. The Committee were not directed to do anything positively, and they were only permitted to apply the principle to preparations of those drugs which themselves were to be standardized. Furthermore, it was permitted only in the case of such drugs as contained active principles readily recognizable and determinable.

Another speaker held if the drugs themselves were standardized, there was no use of standardizing the preparations; that it only afforded a loop-hole for the manufacturers to go round the country making a big bugaboo of standardization for the press.

Dr. Eccles demanded emphatically that those gentlemen who favored the standardization of Galenical preparations should present some reasons why such standardization should be adopted. Another gentleman demanded to know for whom the Pharmacopœia was made after all. Whether it was made for the manufacturer or for the retail pharmacist?

Dr. A. Koenig, of Pittsburgh, managed to get the floor long enough to reply that it had always been his impression that the Pharmacopæia was made for the people who needed medical assistance, and that he felt that they should no longer be subjected to the dangers attendent upon the lack of uniformity in the strength of toxic drugs. Certainly physicians were not misled in regard to this question, as their opinions were based upon too many sad experiences. He was as anxious as anyone to protect the interests of the pharmacist, but to deny that standardization was necessary in the interest of the physician's patients was simply begging the question.

Prof. Oscar Oldberg stated that he rose to press an argument that had not been touched upon. It had been stated that standardization was in the interest of the manufacturer. He emphatically denied it. The Committee had amply exhibited their conservatism in all the sections before us. It was therefore definitely provided that the principle should be applied only in such cases as came readily within the provisions as regards the practice of pharmacists. Where such was not the case the Committee clearly showed their intention of denying the application of the principle. He thought that it was all wrong to say that this is in favor of the manufacturer. It is in favor of the pharmacist, the physicians and the sick.

Dr. H. H. Rusby, of New York, then stated that so far as he was able to see, the arguments of the opponents to the standardization of preparations might be properly paraphrased as follows:

"Resolved: That inasmuch as it is not practicable to secure such absolute uniformity as we should like, we shall therefote endeavor to have as great a want of uniformity as we can secure." In his opinion the question was not whether or not absolute uniformity was to be attained; it was whether we had or could discover convenient processes for increasing the medicinal value of the preparations that we must use. If this were the case, as he believed had been amply shown, then he felt that we should not longer discuss quibbles but take the required step and progress as far as was clearly shown to be practicable at that time, and trust to the future to enable us to go farther.

It was then moved that these sections be referred to the Committee for action. Amidst the utmost confusion, which was controlled only by the excellent executive powers of the President, the vote was taken and carried by 79 to 54. Inasmuch as the clause as it stood, was merely a declaration that the Committee "may" apply the principle of standardization to preparations, this vote to refer the two clauses to the Committee was virtually their adoption.

Dr. Eccles then took the floor on the section that referred to proprietary and patented articles, and stated he was not in favor of excluding from the Pharmacopœia, chloroform, salicylic acid, and antipyrin, which must be done by the adoption of this clause.

Dr. Rice replied that Dr. Eccles was clearly in error; that the exclusion of neither chloroform or salicylic acid would follow the adoption of the section under consideration.

Dr. Eccles then declared that he was in favor of the introduction of certain proprietary articles into the Pharmacopœia; that he believed that physicians must have them, and that it was better that they should be in the Pharmacopœia so that they should be subjected to some control. He stated further that if they were not introduced into the Pharmacopœia, then they would simply remain as they were, and at the expiration of the period of their patents would still be protected perpetually by their trademark; but that if they were to be introduced into the Pharmacopœia under some other name, then at the expiration of the term of patent they would be free to the public under the new name by which they might now be introduced into the Pharmacopœia.

Dr. Rusby replied that Dr. Eccles was clearly not at all informed on the subject of the laws covering this matter; that recent legal decisions of the highest authority, and the House Committee on Patents, had agreed, without a dissenting opinion, that the trademark law gave no legal protection to the use of descriptive names of anything; that if an article were protected by patent, such protection was perfectly legal and would hold until the expiration of such patent; but that under no circumstances, before or after such expiration, could any protective rights inhere in the name itself.

Dr. F. E. Stewart corroborated this opinion.

Prof. Hallberg then informed the Convention that it had been the express intention of the American Pharmaceutical Association that proprietary articles should be made eligible for admission into the United States Pharmacopœia.

Considerable debate followed upon this question, and a vote was taken, resulting in the almost unanimous adoption of the section as it stood.

The sections on nomenclature and specific gravity were adopted, almost without debate.

The section on weights and measures was set apart as a special order of business, that Prof. Mendenhall of the U. S. Coast Survey might be able to present an address upon this subject.

A motion to adopt the recommendation regarding general formulæ promoted some little discussion, but the strong desire for its adoption almost immediately secured its passage with the following amendment: That the termination *æ* in the word "formulæ" be changed to *as*.

Motion to adopt the recommendation that the Committee on Revision be authorized to publish the Pharmacopœia, elicited one of the most earnest debates of the session. It was almost violently opposed by some members, and some little disposition to personality was shown. A motion was made that five members—not to be members of the Revision Committee—be appointed as publication Committee on the ground that there were no business men on the Committee of Revision, a statement which created no little amusement. After an exceedingly animated discussion the amendment was voted down. Prof. Remington then offered the following amendment: Whereas the Pharmacopœia of the United States has heretofore been printed, published and sold by a publishing house selected by the Committee of Revision and Publication, and the profits arising therefrom have been almost entirely absorbed by the selected publishing house, it is therefore resolved that a Committee of the seventh decennial revision of the U. S. Pharmacopœia be directed to print and publish the said revised Pharmacopœia, to hold the copyright in the name of the Committee, and to fix the price of the book at such sum as to yield the largest pecuniary returns consistent with good work and at the same time selling the book at the lowest possible price. This, however, was not adopted.

Dr. Eccles created considerable amusement by moving that the Committee charge $5,000, from each Dispensatory or similar work which might use the work. The motion was not seconded.

The other sections were adopted without dissent.

A resolution was now offered by Prof. Hallberg providing for a new method of constituting the Convention for the revision of the Pharmacopœia of 1900, this method being based on Congressional district representation. This motion excited considerable opposition, and various substitutes being proposed, a Committee of seven was finally appointed to consider the method of representation in the next Pharmacopœial Convention.

THE PHARMACIST AS A MANUFACTURER.

BY W. B. LILLARD.

At nearly every pharmaceutical meeting last year, the practicability of the pharmacist as a manufacturer was discussed. The opinion was that it was more a matter of economy than practicability. As to the theory of economy, it was demonstrated *on paper*, but to practical use it was not.

A few weeks ago, the writer was visiting one of the large jobbing drug houses of the West, when the above subject came up, and they stated that for five years they had kept an account of their laboratory products (they made no patents), and after careful investigation, had given it up as an impracticable and non-paying investment—that they as jobbers found it far more profitable and practical to buy such products of the manufacturers than to make them themselves. If this is the practical experience of a jobber, certainly the retailer can not make a more favorable one.

The second question raised was: That if the pharmacist made his own pharmacal preparations, he would know they were strictly U. S. P. But how is he to judge his crude material? He has to trust some one. It is not practical to make a thorough examination of each article when a small quantity is used by the retailer, but with the several large manufacturing chemists it is. Then, from a practical businesss point, is it not far better to buy our preparations from some reliable firm than to make them.

CHEMISTRY.

THE ASSAYING OF DRUGS.*

BY J. B. NAGELVOORT.

In a recent paper in *Ephemeris* (April, 1890), Dr. E. R. Squibb, says, referring to this subject:

* * * * * The assaying of crude drugs for

their active principles seems an easy matter to those who read and write upon the subject.

---

*A criticism of Dr. Edward R. Squibb's article entitled "Pharmacopœia Revision and Assays."

* * * Pharmacopœial processes of assay will be successful or unsuccessful in proportion to their character. If they aim at a high degree of accuracy and precision, they must, necessarily, be elaborate and complex to a degree that places them beyond the reach of general pharmaceutical ability."

Regarding the "assaying of crude drugs," I can find very little fault with the statement as made, but cannot allow the final remarks quoted to pass unchallenged, that "pharmaceutical processes of assay will be successful or unsuccessful in proportion to their character, etc.," which is a somewhat dubious compliment to pay to the pharmacists of to-day. How it may suit the profession, and teachers in our pharmaceutical schools, to be declared incompetent, and to hear that accurate assays are beyond their reach, I cannot tell.

Twenty-five years since, no one appeared to have any thought of a general assay of crude drugs, though, to be sure, the cinchona barks, and also opium, were occasionally assayed; but in the main, drugs were accepted as found, with no standard of values not covered by cleanliness, time of gathering, and general appearance. A quarter of a century has, however, wrought in many parts of Europe a revolution, and it is only a matter of time when the same will obtain in the United States. Would we have ever had a sonata from Beethoven if the general ability of the public to understand music had been adopted as a measure of success?

Molière wrote: "*Opium facit dormire, quia est in eo, virtus dormitiva.*" Compare this with the knowledge we at present possess of the different opium alkaloids from Sertürner's morphine to Merck's laudanine. I am sure few would care to return to "*electuarium lenitivum, clysmata,*" and the preparations of like class and character, of Molière's time.

The Committee on Revision of the next U. S. Pharmacopœia has almost all the necessary material at hand for the needed reform, thanks to Mr. Wilder's admirable "Digest of Criticisms." Assay processes of the leaves and root of belladonna, yield 100 per cent. of the total alkaloid present; the assay of fluid and solid extracts belladonnæ are equally satisfactory. Assays of jaborandi leaves and its fluid extract, yield the alkaloid within the second decimal of the total amount present. And the assay of either of these drugs is less difficult than the assay of opium for the determination of morphia, of cinchona bark for quinia, or the examination of cod-liver oil for mineral, animal or vegetable adulterants.[*]

Improved cantharides assays as described in recent pharmaceutical literature, prove the presence of twice as much cantharidin as is acknowledged by recent dispensatories, which the U. S. P. ought to recognize (Good cantharides contains one per cent.) Again, the colchicine and colchicine in colchicum preparations, is as accurately estimated as caffeine in guarana, emetine in ipecac root, the alkaloids in nux vomica and in Calabar and Ignatia beans. When Prof. Flückiger acknowledged variations of 0.4 per cent. in the determination of morphia in opium, pharmaceutical chemists may be well satisfied with their ability in pharmaceutical assaying.

Again, Dr. Squibb remarks that: "The claim so frequently heard, that all pharmaceutical preparations from crude drugs should be made or adjusted by assay, is so plausible and attractive as to form a most fertile basis for specious advertising by manufacturers of these preparations, and if the Pharmacopœia could be committed to this or any similar doctrine, it would put much money into the pockets of large manufacturers, and just to that extent would divert practical pharmacy from its legitimate channel and proper responsibilities."

Certainly there can be no danger of too scientific requirements being demanded in the United States Pharmacopœia. The most competent and learned pharmacist will prefer to purchase his assayed preparations from a competent manufacturer, when they are offered for sale; this is simply human nature, and the manufacturer, both in this country and in Europe understands this well. Doubtless Doctor Squibb, as a manufacturer, has had experience corroborative of this.

This argument therefore may be considered as specious and artificial. Moreover, the U. S. Pharmacopœia will find it necessary, doubtless, to follow the example set by the Austrian and Dutch Pharmacopœias, and acknowledge many ultra-pharmaceutical products—for instance, acetanilid—whereby chemical industry reaps the chief benefits. What better warrant could we have for purity of this much needed article than a description of its properties in the U. S. P.? Manufacturing chemists come and go in accordance with their financial standing, but the sick and the poor are always with us. This is no money question, but simply one regarding the interests of humanity. Would a retail pharmacist purchase a polarization apparatus to ascertain if the terbene he makes himself is optically inactive when the next U. S. P. inserts Terbene?

Dr. Squibb claims that the assay of drugs would "divert pharmacy from its legitimate channels." Does glycerin, vaselin, lanolin, pepsin, pancreatin, menthol, chloroform, the volatile oils, borax, sodium bicarbonate, cream of tartar, cacao butter, etc., which are largely produced by non-pharmacists, thus affect pharmacy? Is there a single druggist who would wish to prepare these himself?

---

[*] If there is any doubt of the necessity for a much closer investigation of "oils" than the U. S. P. requires, a copy of the following which appeared in one of our largest drug journals, will clear it away.

U. S. SPERM NEUTRAL OIL

A Sweet and Perfectly Bloomless *Product of Petroleum.*

Has a Heavy, Greasy Body.

Is similar in appearance and color to pure Sperm Oil. *It is manufactured expressly for compounding with Animal and Vegetable Oils.*

Dr. Squibb again says: "In the therapeutic uses of medicines, doses are anything but definite or accurate. Of the same medicines, different individuals require different doses to yield the same effect, and even the same individual requires different quantities at different times and under different conditions; and the real dose is always that variable quantity that yields the peculiar effect of the agent. How, then, can the physician avail himself of any degree of critical accuracy beyond that practical uniformity of strength and quality upon which his experience is based, or of any critical degree of accuracy which is beyond the limit determined for him by variable individual susceptibility?"

We all know how slight is the physician's knowledge of pharmacy. It is only equalled by the lack of therapeutic knowledge of the pharmacist.

Aconitine may vary from 1:150,000 to 1:250:000 in a dilution, for a physiological test; an ipecacuanha root yielded me last year four per cent. of emetine (two per cent. being the average); and I have just finished an assay of belladonna root that yielded 1.2 per cent. total alkaloid.

What will become of the patient under treatment with preparations varying in strength of any of these drugs? Silence is golden: Let then the preparations of the U. S. Pharmacopœia be assayed, standardized, just as is its citrate of iron and quinine, or its potassium iodide are assayed,* or its chemicals are examined for purity.—*Per aspera ad astra*: If progress is encouraged, pharmaceutical chemistry may succeed some day in assaying *rhizoma hydrastis Canadensis*, *herba cannabis*, *folia hyoscyami*, *folia digitalis*, *rad. rhei*, *rhizoma veratri viridis*, or *claviceps purpurea*.

Again Dr. Squibb says: "Out of some 90 officinal drugs in all, there are about 34 of the more important ones which may be fairly represented by ergot, rhubarb, senna, wild cherry, dandelion, columbo, gentian, butternut, Pareira, cotton root, cimicifuga, buckthorn, leptandra, sarsaparilla, spigelia and stillingia, which could not be adjusted by any ordinary processes of assay, and which do not need it if they could, because care in buying them by Pharmacopœial description and tests, rather than by price, will always easily obtain a uniform good quality, at moderate cost."

Surely if ***rhizoma filicis maris*** can be assayed for oleo-resin, and is accepted only when the proper amount (I have found some with two per cent. and some with thirteen per cent.) is contained, there is an opportunity as regards all these drugs for better knowledge than can be obtained from description. The man who to-day is not able to learn pharmaceutical assaying is not able to be trusted with pharmacognosy either; he will certainly buy exhausted tubera Jalapa, false ipecacuanha root, and dispense folia aconiti with $\frac{1}{300}$ physiological strength or with $\frac{1}{25}$., etc.

Dr. Squibb also says: "Assay processes might, perhaps, be directed for a few additional drugs, such as aconitum, belladonna, conium, hyoscyamus, ipecacuanha, Jalap, nux vomica, scammony and veratrum viridi."

If I understand Dr. Squibb aright, by "might perhaps," he intends to convey the idea that it makes no material difference whether the drugs noted are assayed or not. In such case I respectfully object, and point to the latest experience in an assay of *rad. ipecac*, and *rad. belladonna*. Under such circumstances it would seem seem to me as if it was obligatory upon the next U. S. Pharmacopœia to demand the assay of *tubera* and *folia aconiti; rad. et. fol. belladonna; fol. coca; sem. physostigmæ venenosi; cort. cinchonæ; fruct. conii; sem. et tub. colchici; cantharides; rhizoma filicis mar.; guarana; rad. ipecac; fol. jaborandi; tuber. Jalapa; sem. strychnos nux vom.; opium; podophyllum; cort. quebracho; cort. rad. punicæ granati;** and *sem. et fol. stramonii* and all the preparations thereof. If this can be done with the highest degree of accuracy, it can at least be made pharmaceutically satisfactory.

I may call attention also to the assay of fluid and solid extracts of nux vomica, because it is one of the easiest. Brucine may exceed strychnine to the extent of 5 per cent. instead of 2 per cent., but if I estimate the total amount of alkaloids, I have a fair knowledge of the value of the preparation because (passing by hair-splitting differences) the proportions of brucine to strychnine are sufficiently nearly known (variations for strychnine from 0.5 per cent. to 1.16 per cent., for brucine 0.12 per cent. to 1.12 per cent.) for all practical purposes. *Wigand Lehrb. der Pharmacognosie*, iv, ed., 1887.)

Traces of jaborine may be found mixed with pilocarpine in an assay of *folia jaborandi*, according to Flückiger, it being less soluble in water, but this is practically immaterial. Under these circumstances I cannot regard assaying (simply because chemical purity cannot be obtained) as half as dangerous as non-assaying.

---

* *Ferri et Quiniæ citras;* the salt contains 12 per cent. of dry quinine.

Ferri et Strychniæ citras; the salt contains 1 per cent. of strychnine.

Potassium iodide; 1 grain yields, if pure, 1.415 gramme iodide of silver.

* Quantitative assays of pomegranate root bark, are required by the *Pharm. Neerlandica*, iii, which assay must be of direct benefit to pharmacy, when Merck quotes 15 grains of pelleterine at $3.00; and an assayed fluid extract will be quite as efficient in the hands of the physicians.

The *Pharm. Neerlandica* requires 1 per cent. hydrochlorate of total alkaloids in the bark, and 2½ per cent. in the extract.

Again, physostigmine may be contaminated with Calabarine, but by assaying *sem. physostig. ven.* as an ethereal (not alcoholic) extract, I can form an opinion that is fairly accurate. Hyoscyamine, also, may exceed atropine, or may be alone present, but this will not materially influence the value of belladonna preparations.

Hardly any one retail pharmacist attempts to make his own nitrite of amyl, and he may not know which of the amylic alcohols the manufacturer employs; but a specific gravity determination, a fractional distillation, and a few other simple tests, as, for instance, a spontaneous evaporation of 25 c. c. of the sample, will teach him the true value of his purchase. Nitrate of bismuth may contain arsenic that may not be detected by Guttzeits' method, but if Bettendorff's process gives satisfactory result, I accept the bismuth as satisfactory. Sulphuric acid may contain traces of selenium, but I would cheerfully take the responsibility of its use in dilute sulphuric acid, U. S. P.

All these arguments are certainly not new to experts, but "*gutta cavat lapidem*," and I have full confidence that we will have an able Committee of Revision of the U. S. P., that will advise more assays and thereby make further standardization necessary. The responsibility of manufacturing chemists will thereby be increased, and Pharmacopœial preparations made more uniform throughout the United States.—A reform to which no conscientious man can object.

BOTANY AND MATERIA MEDICA.

MONTHLY REVIEW.

Consul Fay, writing to our State Department from Stettin, says that the potato crop is one of the best paying in Prussia, and the products therefrom—dextrin, potato-flour, starch, etc.—shipped to the United States from the port of Stettin during the last three months, amounted to $50,000. German manufacturers are at a loss to understand why we purchase these products abroad when we have such immense crops of corn, when it is realized that the percentage of dextrin in corn is fifty per cent. greater than in potatoes.

When the gum drawn from *Ficus elastica* was first discovered to possess economic value, no one could have foreseen the myriad ways in which it would eventually be put to use. The most recent, perhaps, and certainly one of the most curious, is reported in the *Engineering and Mining Journal*, which says that experiments are being made in Germany with India-rubber pavements. They were first laid on a carriage road of a bridge at Linden, Hanover, and are now being tested in Berlin and Hamburg with "extremely satisfactory results." India-rubber is said to combine the hardness of the stone pavement with the elasticity of asphalt, but does not become so slippery as asphalt.—*Garden and Forest.*

According to the same authority as above, we learn that a San Diego paper announces that an "herb garden" of some ten acres in extent is to be established near that city by Mr. Augustus Lang. Plants particularly valuable for their medicinal qualities, and, perhaps, flowers specially desirable for their perfume, are to be cultivated. A laboratory is to be erected for the treatment of the herbs and flowers grown, so that essential oils and extracts, as well as dried herbs, will be prepared for the drug market.

Florida Facts informs us that the camphor tree is fast coming into notice in that State, and that several are growing nicely at St. Francis. They were not injured in the late cold wave that visited Florida, and the cultivation there is recommended for commercial purposes, although hitherto their use has been purely decorative. The recent scarcity of camphor and its consequent high price, have prompted investigation into the suitability of our Southern climate for cultivating the tree as a source of the gum. Since, however, that the use of camphor in the preparation of smokeless gun-powder has been condemned by the German and English Governments on account of the volatility of this substance, and since it was its employment in the manufacture of this article that created the famine in the market, there will now be every probability of the price returning to its former level. The attention that is being now given to the matter may or may not be productive of results, but, as we have on other occasions remarked, a National botanical institution is needed to satisfactorily settle such questions of economic botany.

Names of Perfumes.—We have no doubt but that many of our readers have often admired the ingenuity of perfume manufacturers in grinding out new names for their goods; although they have also wished, probably, that these same manufacturers did not go on multiplying the variety of their wares with such prodigality. A writer in *Garden and Forest* evidently thinks that perfume makers have altogether too lively imaginations in the matter of names, he says:

"A Western perfumer advertises the 'phenomenal sale' of a new extract which he calls 'Golden Rod Perfume.' If it has no more odor than the blossoms which, as he says, have won popularity as our 'national flower,' any sale, however small, must indeed be regarded as phenomenal; nor does it seem probable that the single species of Solidago (*S. odora*), the leaves of which emit, when crushed, an anisette-like perfume, can be obtained in sufficient quantities for extensive distillation.

There is frequent similar proof, however, that in this, as in other trades, it is difficult to supply a succession of 'novelties' and fit them with attractive names without trusting a little to the credulity of the public. For example: if the golden rod is popular, the orchid is 'fashionable,' and this is even better for advertising purposes; therefore 'Orchid' perfumes are now in the market, bearing the names of several kinds, some of which have no fragrance whatever. Sometimes the makers are so discreet as to say no more in their advertisements than that they 'reproduce' the odor of the given flower; but the name on the bottle seems like an attempt to make the confiding purchaser believe that he can inhale from it the actual breath of some rare, costly exotic."

A new food for infants and invalids is brought to our attention in a recent article in the *New York Times*. The product is named lactoserin and is the invention of Prof. W. Rehnstrom, dairy instructor and agricultural chemist of Sweden. It is being exhibited in New York at present by the inventor's agent, Mr. A. Wahlin.

Lactoserin is prepared by curding skimmed milk in the same way as is commonly done in cheese-making, only that a larger quantity of rennet is used and at a higher temperature, so as to make the precipitation complete. To the whey thus obtained is added an equal quantity of skimmed milk, and the mixture, through a simple process of evaporation, is transformed into solid, nearly water-free cakes, which are afterwards cut or ground and more or less roasted to suit whatever purpose intended.

Mr. Wahlin says that lactoserin, mixed with coffee produces a beverage which in taste approaches and even surpasses that of the best unmixed coffee, and in nutritious value is far superior. For invalids or the physically weak it is to be preferred in many cases, since the nerve-excitant properties of the beverage are reduced to a minimum. For household purposes, such as for thickening and flavoring soups and sauces, in preparing desserts and ices, the new food has been found to be of great value. It has already found considerable favor in Europe and its endorsement in this country is confidently expected.

M. Thiel has discovered in the bark of a leguminous plant, described by Baillon under the name of *Acacia anthelmintica*, a substance whose chemical characteristics closely resemble those of saponin (Moussenin). The author states that this bark is much more active as a tænicide than kousso, and is less disagreeable to the taste. He employed it in the form of a powder in a dose of from 10 to 16 drachms, mixed with honey or milk; or it may be employed in infusion, of which an ounce may be taken as a dose, given in the morning two or three hours before eating. In the evening of the same day, or in the morning or evening of the day following the tænicide, the parasites will usually be displaced, followed, after a few days, with removal of their fragments.—*Journal de Médecine de Paris.*

Nut-Cracking Department.

To Remove Kerosene Oil Stains from Carpets.

J. D. McM., Lumberton, N. C.—Pure kerosene oil should evaporate completely from fabrics, without leaving any stain. But commercial kerosene usually contains paraffin oil, which leaves an ugly stain that grows gradually worse with age as dust adheres, until it has the appearance of an unsightly plaster.

An endless number of renovating preparations are recommended for the removal of such stains, but we know of nothing more practicable and efficient than the following:

Remove the carpet, or loosen the stained portion from the floor; on a piece of waxed paper, oil-cloth, tin, or other suitable surface, place a layer of whiting, terra-alba, or flour; cover this with a sheet of filter paper, muslin, or cheese cloth, and place the whole under the carpet, directly beneath the stain to be removed. Pour slowly some benzin all along the edges of the stain, and come gradually to the centre. When nearly dry, repeat the operation, if necessary. (Do not pour the benzin directly on the spot at first, or the oil will spread, and leave a greasy border). One application is usually sufficient for a fresh stain. When all traces of oil are removed, expose the carpet to a current of air until the benzin is evaporated.

Manufacture of Mirrors.

J. D. M., Lumberton, N. C.—The term "silvering," as applied to the formation of metallic coating on glass, for giving it the properties of a mirror, was, till quite recently, a misnomer, seeing that till about 1840 no silver was used in the process. Now, however, a large proportion of mirrors are made by depositing on the glass a coating of pure silver, and the old amalgam process is comparatively little used.

The old process consists in applying a thin amalgam of tin and mercury to the surface of the glass, which is done on a perfectly flat and horizontal slab of stone, bedded in a heavy iron-bound wooden frame, with a gutter running round the outer edge. On the surface of this table, which must be perfectly smooth and level, is spread a sheet of thin tin-foil, somewhat larger than the glass to be operated on; and after all the folds and creases have been smoothed out, the process of "quickening" the foil is commenced.

A small quantity of mercury is rubbed lightly and quickly over the whole surface, and the scum of dust, impure tin, and mercury, taken off. Mercury is then poured upon the quickened foil until there is a body of it sufficient to float the glass to be silvered (about ¼-inch deep), and, the edge at one of the sides having been cleared of the scum peculiar to mercury, the glass (scrupulously cleaned simultaneously with the above operation) is slid from that side over the surface of the mercury.

Weights are placed over the surface until the greater part of the amalgamated mercury is pressed out, and the table is then tilted diagonally, when all superfluous mercury finds its way to the gutter.

The glass is left twenty-four hours under weights; is then turned over, silvered side up, and removed to a drainer with inclining shelves, where by slow degrees, as it dries and hardens, it is brought to a vertical position which, in case of large sheets is sometimes not arrived at in less than one month.

This process is said to yield excellent results, producing a brilliant silver-white metallic lustre, which is only subject to alteration by exposure to high temperatures, or by contact with damp surfaces.

It is said that in 1835, Baron Liebig observed that, on heating aldehyd with an ammoniacal solution of nitrate of silver in a glass vessel, a brilliant deposit of metallic silver was formed on the surface of the glass, and that to this observation is due the modern process of silvering glass.

As your query refers especially to the use of quicksilver in the manufacture of cheap looking-glasses, we offer the following, furnished by one who has employed it successfully for several years.

Clean a pane of glass thoroughly, polish with whiting and water, and rub dry with soft chamois skin. Surround the glass with raised edges, about $\frac{1}{8}$ of an inch high, of putty, or paper pasted on the sides of the glass, in order to prevent the mercury overflowing. Now cover the glass with tin-foil, and smooth by careful rubbing, and then pour on enough mercury to reach the top of the edges. The amalgam will form in a short time, when it must be covered with a soft woolen cloth exactly fitting the glass, next with a perfectly level board of like size, upon which is placed heavy weights to force out the excess of mercury.

Remove the edges, and after two days take off weights, board and cloth, and bring the mirror into an oblique position on the table, to allow the excess of amalgam to slowly drain off. About two weeks are necessary for this. Then rub amalgam carefully with a soft cloth, or smooth down with the finger, and apply a coat of shellac varnish, followed when dry by one or two coates of red lead paint.

Those interested in the beneficiary associations of the United States, can help make the statistics of their organizations for the forthcoming census more complete and thus disseminate the knowledge of the good work they are doing, by sending the names of such societies as they may know of, and the addresses of their principal officers, to Mr. Charles A. Jenney, Special Agent of the Eleventh Census, 58 William Street, New York City.

Correspondence.

PARIS LETTER.

A Satisfactory Formula for Permanganate of Potash Pills—Fluoroform; A New and Safe Anæsthetic—Aricine, a New Alkaloid from Cinchona Bark—Reagent for Alpha and Beta Naphthol—Preparation of Glycerite of Starch with the Oil of Cade—How to Correct the Precipitate in Solutions of Sulphate of Copper—Reformation in Nomenclature of Arbitrary Pharmaceutical Combinations—Military Biscuit of Kola Nut—Analgesic Mixture for Use in Teeth-Extraction—How to Compound an Inexecutable Formula—The French Pharmacist's Relations to the Ichthyosaurus.

The struggle among pharmacists to find a satisfactory mode of preparation for pills of permanganate of potash, has continued, and finally borne fruit. M. Vincent finds that the result is easily obtained by mixing 1 gramme of finely pulverized permanganate of potash with 2 grammes of kaolin, and adding 30 to 40 drops of distilled water. A moderately soft paste is first made with the clay and water, and the salt is then incorporated and the pill rolled in talc powder. An equally good but less simple formula is as follows:

Silicate of potash	2 grammes.
Aq. dest	1.50 to 2 grammes.
Talc	q. s.
Permanganate of potash	1 gramme.

It has sometimes been said that Frenchmen would save themselves much time and labor if, before entering upon scientific researches, they would find out what others had done in the same direction. Well, in this case they would have discovered that Martindale, in the Extra Pharmacopœia, has recommended kaolin ointment for the purpose cited. They would also have learned that the work was published in 1884.

At a recent sitting of the *Académie de Médecine*, M. Moissan announced that, having observed the effect of chloride of ethyl in causing convulsions and asphyxia, he had determined upon experiments with a view to producing a better anæsthetic. He found that fluoride of ethyl might become rapidly toxic. The chloride and fluoride of methyl, however, mixed in proper proportions, seems likely to give better results than the uncombined preparations. Hence he feels justified in telling us that we may soon expect to have a new, powerful, and safe anæsthetic, which will be called "fluoroform."

At the March meeting of the Société de Pharmacié, Messrs. Moissan and Landrin presented the results of their researches on aricine, an alkaloid which, so said, they had extracted from the bark which contained neither quinine or cinchonine. But, it seems that pharmacists are capable of wide differences of opinion, for

M. Planchon stated that he had examined the bark in question, and had no hesitation is saying that it was produced by a cinchona plant. And in this unsatisfactory shape the matter rests until the next meeting, when we may expect a friendly pharmaceutical fight.

At the same meeting, M. Yvon made known the formula of his reagent for alpha- and beta-naphthol. It is as follows:

Aqueous solution of napthol (saturated)	10 c. c.
Nitric acid	10 c. c.
Alcohol	10 c. c.
Solution of nitrate of mercury	7 to 8 drops.

With alpha-naphthol, this reagent gives an orange color. With beta-naphthol it also gives an orange color, but that soon changes to a cherry-red hue.

Some discussion was developed over the proper mode of preparation of the glycerite of starch with the oil of cade, an ointment somewhat largely used in the hospitals of Paris. M. Lépinois found that at the St. Louis Hospital a strong cadic glycerite was made with equal parts of glycerite of starch and the oil of cade. It being difficult to make a harmonious mass of this, it was proposed to mix soft potash soap with it, which had the effect, in time, of separating a portion of the oil of cade. He proposed a formula as follows:

Oil of cade	50 grammes.
Glycerite of starch	45 grammes.
Fluid extract of quillaia	5 grammes.

This mixture was finally adopted and found to be very satisfactory. M. Julliard, having occasion to use a very strong cadic mixture, first made an emulsion of the oil with gum and then added the starch.

Grimbart and Barré have been investigating the nature of the precipitate which forms in solutions of the sulphate of copper, thus injuring such preparations and making them unreliable for use in show-bottles. They found the substance to be quadribasic sulphate of copper. The trouble may be avoided by adding 12 centigrammes of tartaric acid to each litre of the solution.

French chemists are making vigorous protests against the giving of new names to new and arbitrary combinations of drugs. They say that if the drugs are combined they should possess a compound name. Thus, they say that hypnol should be called chloral-analgesin, etc. Dr. Bardet and M. Crinon favor this notion, and it is likely to prevail. M. Crinon thinks that the giving of high-sounding names to loosely composed chemical hybrids savors of "scientific pomposity."

Aliments stratégiques, or rations accélératrices condensées are the terms applied to recent manufactures of military biscuit which have excited some comment among doctors and analysts. Grooters is selling them in the Palais-Royal, and is pleased to display samples to all inquirers. The most successful of these are made from the kola nut. It is stated that a half dozen of them (about the size of a lady's watch) will nourish a man for one day, while marching, and will support him during a tramp of 50 kilomètres.

M. Sasserath proposed two or three months ago an analgesic mixture to be used in the extraction of teeth, and his method has been successfully used since that time by several Parisian dentists. The preparation consists simply of 10 grammes of sulphuric ether, and 5 grammes of a 2 per cent. solution of cocaine. This is applied to the gum by means of the spray, and, during the application the patient inhales a sufficient quantity of the ether to protect him against pain and to withdraw much of his consciousness. M. Sassenrath says: "By this means I have been able to give all the good results I had previously obtained only by the use of chloroform."

In the *Bulletin Commercial*, M. Nicolai tells how he executed an "inexecutable" formula. The prescription called for: Liq. ammonia, 20 grammes; tinct. iodine, 20 grammes; collodion, 20 grammes; apply with a brush. The mixing of these substances gave a solid mass caused by the precipitation of the collodion by the ammonia. M. Nicolas, profiting by the solubility in alcohol of the vapor of ammonia, prepared an alcoholized ammonia (without water) by sending a current of ammonia gas through strong alcohol. He was then able to get an elegant, red preparation suitable for painting rheumatic joints, and more than this, he "was thus enabled to save the honor of pharmacy," for this is the graceful way in which the French pharmacist is apt to speak of these matters.

Rhyme has charms for him also, and it is interesting to note the care with which he will quote and translate the exquisite professional poems of his brethren. For example, E. F., in the *Bulletin Commercial*, takes the following from the *Chemist and Druggist:*

The ichthyosaurus lived of yore
In the region of Timbuctoo,
When the water was H_2SO_4
And the air was CO_2.

Of this, he gives what he modestly calls an approximative translation, as follows:

Quand l'eau des mers était de l'H_2SO_4
Et l'espace rempli de pur gaz CO_2,
Tombouctou dans ses lacs a vu naître et s'ébattre
L'Ichthyosaure, un monstre étrange et fabuleux.

This seems to show that the French pharmacist is bound to maintain polite and friendly relations even with the ichthyosaurus.

LONDON LETTER.

An "Off" Time Waiting for the Annual Meetings and Elections—The Present Aspect of Trade—A Novel Aid to Digestion!—A Case of Alleged Poisoning by a Proprietary Cough Medicine—The "Poison" Label Question—Defective Sal Volatile—Wanted, Written, Guarantees!

The present period of the year is always a somewhat dull one in the pharmaceutical world. With March the evening meetings come to a close, since the April meetings are generally postponed *sine die* owing to the close proximity of the Easter holidays, which are supposed to distract the minds of scientists from the pursuit of scientific research. Further, the annual general meeting of the Pharmaceutical Society takes place next month (May 21st), and there is a lull before the storm, which generally is more or less evident then, and which annually clears the air for us. Then, also, come the elections, which will be, for many reasons, full of interest this year; but in the meantime there is a striking absence of stirring events. From various signs, however, we may suppose that trade is in a fairly flourishing condition; the columns in our trade journals, for instance, under the heading "Assistants Wanted," are conspicuous by their length, which is, of course, in some instances due to the oncoming of the season at the various seaside resorts; still, as we are yet only quite early in spring—and not very balmy weather either—there is some significance in the fact that a large number of proprietors find it desirable to already take in additional help. Although the charges for dispensing are almost weekly falling lower, yet there seems to be some reason for believing that medical men are relinquishing the practice of putting up their own medicines, though of course this is not general among them; in country places the medical men are very seldom benefactors to the pharmacists in the number of prescriptions they send.

The credulity of the British public is inexhaustible, and a recognition of this is the greatest source of consolation to the proprietary medicine manufacturer. He artfully—and we may even say, ingeniously—constructs an advertisement setting forth the symptoms of the disease for which his medicine is a complete cure; these symptoms are, of course, of a very general nature, and, as a rule, of little or no significance, so that every one who reads has, or believes he has, the diseases mentioned, and so naturally purchases the remedy. One of the strangest preparations, just brought out and offered to the public as a remedy for dyspepsia, is a table-salt containing a certain proportion of pepsin! It is to be feared that the digestive power of pepsin in the presence of an excess of salt will not be found very striking.

Considerable interest has been excited, especially in pharmaceutical circles, by the publicity given by the daily papers to an alleged case of poisoning by a well known so-called "patent" cough medicine, Kay's Essence of Linseed. The facts are, simply, that a young man who was suffering from a cough was given 1½ teaspoonsful of the Essence by his father, in the early part of the evening, and another dose of a teaspoonful four or five hours later. The next morning, symptoms of narcotic poisoning were observed by the father, who summoned medical aid; this, however, was of no avail, and thirty-six hours later the patient died. When the inquest was held, a verdict was returned couched in the following terms: "Death from an overdose of Kay's Compound Essence." Now there can be little doubt that the conclusion arrived at by the jury was unsound, to say the least. There were only three very insecure factors which went to justify the verdict: (1) That the deceased had taken Kay's Essence: (2) That the medical man attributed death to a narcotic poison (either opium or morphia,) and: (3) That the medical man asserted dogmatically that he had no doubt that the doses of Kay's Essence had caused the death. Of course it is natural that a doctor should be prejudiced against nostrums, but he probably allowed his prejudice to carry him too far in this statement. There were, it is clear, only 2½ teaspoonsful administered altogether, with an interval between the two doses of 4½ hours; no shadow of doubt can attach to the assertion that a similar, and even larger, quantity has been repeatedly taken by the many comparatively uneducated people who use the medicine. Strong side-lights are thrown on the father's statement that there was no motive for suicide, by the fact that the young man died on the day set for his marriage, which he knew he would be unable to consummate. Further, he went out between the taking of the first and second doses of the Essence. A curious feature of the case is that Kay's Essence is one of the few "patent medicines" containing poison, which are so labelled.

The Lord Mayor recently suggested that an alteration should be made in our Sale-of-Poisons Act by which all preparations containing poisons should be labelled "poison" as a preventive of accident, or at least as minimizing the risk. Such an alteration would importantly affect the sale of nostrums and the business of the chemist and druggist who alone can sell "poisons."

It is well known, at least here, that considerable difficulties attend the preparation of sal-volatile in commerce; repeated analyses have shown that specimens procured in the ordinary way are deficient almost invariably in carbonate of ammonium, and, indeed, it may be doubted whether the spirit has ever the strength prescribed by the Pharmacopœia. In part of the distilled compound spirit of lemon and nutmeg, the carbonate of ammonium is dissolved by the aid of gentle heat (140° F.); it seems probable that during this solution, unless considerable care is taken, loss of the volatile ammonia salt may occur. There seems, further, to be some doubt as to what internal changes (if any) take place in the spirit when it is kept.

Considering all this vagueness and want of definition, it is not altogether surprising that the attention of the authorities responsible for the working of the Food and Drugs Act, should be turned to the subject of *spiritus ammoniæ aromaticus*, and three or four prosecutions have taken place in which the defendants have been chemists charged with selling sal-volatile deficient in carbonate of ammonia and in neutralizing power. The Pharmacopœia directs that "one fluidounce requires for neutralization 558 grain measures of the volumetric solution of oxalic acid; but does not say to what extent the resulting oxalate of ammonium solution is to be neutral. With litmus it is possible to get a neutral solution when only 390 grain measures of the volumetric oxalic have been used, and even with the aid of heat to expel the dissolved carbonic-acid gas, it seems almost impossible to use up 558 grain measures of the volumetric solution.

In each of the cases alluded to, the pharmacists in question were able to show that the preparation had been obtained from makers of high repute who, when appealed to, were equally with the defendants unable to account for the deficiencies. This fact induced the magistrate to take a lenient view of the offense, and very light fines were inflicted. The moral of these cases seems to be, either that the pharmacist must test every batch of a Galenical before purchasing—a tedious and well nigh impracticable plan—or better, insist upon a written guarantee of the purity of every drug or preparation which is liable to adulteration or deficiency.

PHARMACEUTICAL NEWS FROM GERMANY.

A Contribution to Our Knowledge of Myrtol—Further Evidence as to the Value of Aristol—The Poison of Diphtheria—So-called "Ozone Water"—Unna on Lanolin—The International Medical Congress.

Myrtol has hitherto attracted little attention especially since the statement of E. Jahns, that its active constituent being cineal (identical with eucalyptol and cajeputol), its use should be abandoned and eucalyptol given instead, either alone, or when necessary combined with oil of turpentine. Quite recently, in France, its antiseptic power has been altogether denied, and the statements of nearly every author who has experimented with it vary in regard to the strength in which it arrests the development of bacteria. Drs. Braütigam and Nowack have made a number of experiments with reference to this point, and they find that a concentration of 1:33 is sufficient to sterilize gelatin cultures of cholera, *bacillus prodigiosus*, and *b. subtilis*, whilst *b. anthracis* and *b. pyocyaneum* lost their power of development only in the presence of 12 per cent. myrtol. Although they failed to obtain such excellent results as those recorded by Eichhorst, yet in three cases of putrid bronchitis, and one of pulmonary gangrene, a complete deodorization of the fœtid smell of the breath and expectoration was effected by administration of myrtol. In one case, *experimenti causa*, they gave the patient one drachm and a half of the compound for a single dose without any serious functional disturbances. The authors believe that myrtol is valuable in the treatment of affections of the lungs, because, being almost entirely excreted by these organs, it has more opportunity than many remedies of exerting its antizymotic and deodorizing power under favorable conditions.

Aristol seems likely to get a fair trial at least, and the results of the experiment so far made with it seem favorable to its more extended application, especially in the treatment of diseases of the skin. Following on the report of Dr. Schirren, which was mentioned in my last letter, we have the experiences of Prof. Kaposi. This authority applied aristol as a 10 per cent. ointment with simple ointment as a base, with which it was incorporated after having been rubbed down with oil. Further it was also used and recommended in powder form as a dusting powder. The favorable judgment of Eichhoff (the first to use the new the antiseptic) is conformed by this latest evidence. The following formulæ for preparations for therapeutical application are of pharmaceutical interest:

1. Aristol 2 drachms; ether (or elastic collodion) sufficient to make 3 ozs. Used as a paint.
2. Aristol 1 to 4 drachms; dissolve in olive oil 2 drachms, and add lanolin sufficient to make 3 ozs. For external use.
3. Aristol 2 to 10 grains; cacao butter sufficient to make urethral bougie.
4. Aristol 5 to 8 grains; cacao butter sufficient (45 grains) to make a vaginal suppository. For subcutaneous injection the solution in almond oil was applied.

Like every other zymotic disease, diphtheria has its attendant bacterium to which, indeed, indirectly are traced all its symptoms and morbid organic changes. It is, however, now recognized that the direct cause of these is a poisonous body which is produced by the action of the bacterium upon the albuminoids it comes in contact with in various parts of the system. The researches of the last few years have established the well-defined chemical nature of the basic bodies produced by the typhus, tetanus and cholera bacteria, which bodies by reason of their great toxicity have been termed "toxines." These results were, however, not quite satisfactory, for it was not possible to produce the same symptoms by means of the toxines as the bacterial cultures themselves, so that the bacteria must form other bodies also which have not yet been separated. Now the bacillus of diphtheria, injected under the abdominal skin of animals, has not the power of spreading through the whole organism, but merely forms local abscesses. In these however, the formation of poisonous products goes on, which are carried by the blood through the whole body. Profs. L. Brieger and C. Fränkel, who have really carried out an exhaustive research on the poison of diphtheria, state (*Pharm. Zeit.*) that the substance, though decomposed by a heat of 60° C. is capable of bearing evaporation under 50° C., even in the presence of an excess of hydrochloric acid. This last-named character tends to negative the supposition that the chemical poison of diphtheria is a ferment or enzyme, while experiments specially designed showed that it had nothing in common with an ordinary ptomaine. A second experiment worked at a temperature not exceeding 40° C., yielded a body of quite extraordinary poisonousness, in the form of a snow-white, amorphous, crumbly mass easily soluble in water and precipitated by alcohol. Its reactions showed that it was an immediate derivative of albumen. Injected into animals it produced symptoms (paralysis, etc.) similar to pure cultures of the bacillus. In order to distinguish it from similar bodies (the toxines) built up by other micro-organisms, the authors propose to call it "toxalbumin" and believe that it is formed directly from the albumen of the tissues by a process of transformation.

Another attempt has been recently made to induce the public and the medical profession to believe that ozone has been prepared in aqueous solution, being held in that condition by the presence of common salt and hydrochloric acid. A pseudo-scientific work has been issued relating to the preparation and properties of ozone, and the methods by which it is imprisoned in "Bactericon." This booklet bears on the outside, in letters of gold, the following legend: "How can we successfully combat infectious diseases as diphtheria, scarlet fever, whooping-cough, tuberculosis and their epidemics?" and the whole is dignified by the title "a scientific study." Within some hundred pages it treats of the infectious diseases, of general disinfection, and of the chemistry of ozone. A certain amount of success seems to have been produced by the agents of the company who showed a wonderful chemical experiment with Bactericon which in the dark was observed to act with so much energy upon organic matter that it emitted flashes of light! However our analytical workers took the liquid in hand, and we are not surprised to find that no ozone was found in it by any of them, but only a certain quantity of hypochlorous acid.

Unna is just preparing a treatise on lanolin, and its applications, in which he examines and criticizes the various formulæ which have been published. He has already written a considerable number of pages but has not finished the work. It will beyond doubt be full of interest, particularly as Unna is a very careful and thorough worker, and can always give good reasons for "the faith that is in him." Probably, when the essay is complete and published, I shall refer to its contents.

In continuation of my notes in the last letter, it may be added that the interest in the International Medical Congress and Exhibition continually increases, and sites for exhibits are letting fast. Continued attempts are being made, with some success, to facilitate travelling for foreign medical practitioners wishing to attend the Congress, by getting railway and steam-boat fares reduced, while in the centre itself the foreign visitor will be met by both public and private hospitality.

NEW YORK LETTER.

MAY 7th, 1890.

EDITOR OF THE DRUGGISTS' BULLETIN:

Dullness has been the only prominent feature in the jobbing drug trade of New York City during the month of April, and the leading topic of conversation among dealers has been, "Why is trade so dull?"

It is said that the universal verdict of travelling salesmen connected with the drug business of New York, has also been to that effect. Their orders have been very light, and letters instead of being made up of orders, as should be, have been largely grumbles as to the condition of trade, the full stocks, and the impossibility to interest buyers.

The probabilities are, that stocks were well filled during the unusual rush of January and February, and as the epidemic of that period so quickly disappeared, the demand for consumption was unexpectedly cut off, leaving shelves well filled.

One marked effect of the unusual rush in the beginning of the year, was to encourage importers in placing very large orders abroad, which have been reaching this port during the period concerning which I am now writing, so that there is a superabundance in our market, and the effort to realize on these large stocks, has caused very many cuttings in prices, and a consequent decline in almost everything.

It will be observed by your readers of the trade papers, that the advances in valuations during the past month have been very few, but the lists of "declines" have been very long.

Opium.—Has remained absolutely without change; efforts on the part of speculators have not succeeded in advancing its value one cent. The market for the article has been absolutely stagnant, and, as nearly as one can judge from present surroundings, there is no probability of better prices for some time to come. Therefore the anticipated rise in the price of morphine has not been realized. To the contrary, there are very many parcels held in second hands--deliveries on contracts made some time ago—which are being crowded upon the market, and manufacturers' prices can easily be shaded five cents, if not ten cents, per ounce.

Quinine.—The tendency of the market has been steadily downward. The demand has been absolutely nothing. During the last few days of April the different German manufacturers were offering "confidentially" prices below those ruling at the time, both for "spot" and for "future." The "confidential" feature has, at the time of this writing, been removed, and they are now offering freely for future deliveries at prices as low, if not lower, than any that have been given in the open market during the past month. If the absence of demand continues a few weeks longer, one need not be surprised at 25-cent quinine.

Jamaica Ginger.—The crop of this year has not been sufficient to meet the current demand. This one article, therefore, is continuing to advance, and as the warm weather comes on and consumption increases, higher prices may be anticipated. The quality is just about such as that of last year.

Celery Seed.—The suggestion given in my communication of last month, to the effect, that those needing supplies had better purchase, seems not to have been acted upon; but the fact is, that there is little or no stock here, and very high prices will have to be paid as soon as the season for picking reaches us.

Buchu Leaves.—An effort has been made, on the part of one of the importing houses of this city, to corner the article. They succeeded in doing so to a degree, but fresh arrivals have had the effect to break this corner, and no higher prices need be anticipated.

There are abundant supplies here to carry us through until the new crop comes to hand. Buyers, therefore, need not concern themselves concerning the future of this article.

Jalap.—The scarcity of this article in this market continues, although the arrivals have been freer. It is anticipated that there will be plenty coming forward in the near future, so that the present very high range of prices will have to yield.

Sarsaparilla is also beginning to come in, in larger quantities, and the present high prices will have to give way. It will assume its normal position in all probability within the next week or two, when the anticipated arrivals shall have reached this market.

Cream of Tartar and Tartaric Acid.—The desire to sell on the part of manufacturers, as indicated in my communication of last month, has passed away, and there is now greater firmness felt. It is generally believed that the rupture between the manufacturers will soon be healed, and former prices again prevail, or, perhaps, advance.

Citric Acid.—The demand now is somewhat increasing. Prices in Europe have advanced, but American manufacturers still hold to the prices of March and April. It is generally believed, however, that they cannot maintain these when the warm weather comes and the consumption is increased.

Cod-liver Oil.—Advices from Norway are to the effect, that while the catch has been small, the livers have been unusually large. Prices have declined very materially, and it is believed that during the coming Autumn the oil will be as low, if not lower than has ever been known before.

Golden-seal and Mandrake Roots.—There is nothing to add to my report of last month, further than to say that abundant stock still lies in this market, and there should be no temptation on the part of gatherers to collect any during this year, as they will not be able to realize proper returns for their work.

Cascara Sagrada.—Although the demand is active, supplies are so great that it continues to droop in value.

Guarana.—It is many years since the stock of this article has been so light, and we have no advices whatever of any more coming forward. The probabilities, therefore, are, that an advance even upon the present very high range will have to be realized.

Ergot.—Is absolutely neglected, and low in price.

There does not seem to be much confidence shown on the part of the drug trade of the East in the probable passage of the McKinley tariff bill. Should it pass as it is now framed, it must work very great injury to the trade; but there are so many features in it obnoxious to importers generally, that its final passage is considered extremely dubious on the part of all interested. The attention of large buyers should be directed to the trade journals that have written very fully upon this subject. Very many items connected with the drug trade will be more or less affected by this bill, should it pass; and for any intelligent idea in this direction the trade papers should be carefully read.

DESCRIPTIVE LABELS FOR NEW REMEDIES.

EDITOR DRUGGISTS' BULLETIN:

Retail druggists, or dispensing pharmacists, are somewhat agitated over the question of manufacturing pharmacists taking away a good deal of the old-time home-made preparations; yet no druggist refuses to sell or dispense whatever the physician thinks best for his patients. As a matter of fact, the physician is "the doctor," not the druggist.

It is a matter of history, not of fancy, that no remedy of ancient or modern times has had such a "grip" on the physicians as antipyrin,—a remedy not even made by manufacturing pharmacists, but by a "Farben Fabrik," *i. e.*, anilin color works.

These color works, as well as manufacturing pharmacists, could greatly improve on their output if they studied and paid some deference to the working-routine of the retail pharmacist. I am coming to my appeal now! Why could not the color works and other manufacturers of new remedies be prevailed upon to have a little label put on each original bottle of their products, briefly stating physical properties (as solubility in different fluids), chemical action, and average dose? True, as my distinguished friend, Dr. F. Hoffmann, says, every well-read pharmacist ought to know these particulars from his journal. Certainly, he *ought to*, but he *does not!* That's the difficulty! We cannot all be college teachers and editors, who keep information at their fingers' ends; some of us have to be active pill-rollers, who do not make it a point to keep an elaborate collection of journals.

The flood of new remedies is enormous, and we cannot think of buying any of them because they are new, but must wait until we have a call for them. Then begins the pic-nic! We remember that we read something about this or that new remedy, but do not remember just where and when. We hunt up our file of journals and find there all except the issue mentioning this new thing; and, consequently, we are without any knowledge concerning it. That's the actual history of a busy druggist's experience with new remedies.

I have lately followed the plan of sticking labels on new remedies, containing the chief points of interest to me, as gleaned from journals. Cannot the manufacturers do this work for me and for other druggists?

Experience goes to show that even the well-read, way-up standard bearers need not blush to admit that they are often puzzled in daily practice; even price lists, the great guides of guides, do not always help us out,—although they may keep us from using a very expensive remedy in place of a very cheap one! But—jesting aside—if you approve of my prosaic suggestion, join me in asking "new discovery" benefactors not to launch their newly fledged panaceas on the world at large without attaching a few kind words of advice regarding physical properties, chemical action, and medicinal doses, to the original bottles.

Such a lift would not come amiss for doctors who receive samples, either. We had a prescription recently for a new hypnotic, ½ drachm *in 6 powders;* as we could not obtain it here, we telegraphed East for it, got it, and found it was—*a liquid!*

Yours truly,

W. BODEMANN.

CHICAGO, ILL.

BALDNESS AND DANDRUFF.—A solution of chloral hydrate, five grains to the ounce of water, will clear the hair of dandruff, and prevent its falling out from that cause. In many instances where the patient is nearly bald, the applicätion of the above mentioned solution will restore the hair.

Arnica oil is also an admirable remedy to promote the growth of hair; a small quantity well rubbed into the scalp three or four times a week, can be tried with expectations of benefit.—*Med. Sum.*

Book Reviews.

Plantes Médicinales, Indigènes et Exotiques, leurs usages thérapeutiques, pharmaceutiques et industriels; par MM. Dujardin-Beaumetz et E. Égasse. Paris, 1889, 25 fr.

We feel constrained to admit for once that a book has really been published that "fills a long-felt want," and that it is the one before us. In the maze of never-ending series of new chemical compounds which have been lately brought to the front as therapeutic agents, there was some danger of clinical facts, chemical analyses, and passing notices of the medicinal plants, escaping record. These have, however, been carefully collated by the authors, and together with some original notes of their own, are now placed in book form. As the authors say, their chief difficulty in making this compilation was to keep the work within bounds, and many volumes could have been made instead of one had not some method of elimination been adopted. They have endeavored as closely as possible to admit only such articles as have been proved to be of undoubted value. In looking carefully over the treatment of several articles we cannot but feel that the therapeutic part is characterized by the same care and scientific accuracy which M. Dujardin-Beaumetz has shown in all his researches in therapeutics, in which his reputation as an author has been already made. M. Egasse, who has had a large share in the elaboration of this work, is identified more especially with the botanical descriptions and pharmacology of the drugs mentioned. This part of the work has received scientific handling—no one can hesitate to say so—but many little slips are made in the nomenclature which are not sufficiently important in themselves to detract from the value of the work, but which suggest careless proof-reading on the part of some assistant.

It may be immaterial to some that *Piscidia Erythrina*, Lin., is made to read *P. Erythrina*, Lam., that *Cimicifuga racemosa*, Nutt., appears as *C. racemosa*, Ell., that *Glycine hispida*, Maxim., is printed as *G. hispida*, Sieb. & Zucc., and that many generic names are given which are not now recognized; these are details that would naturally be verified from other sources by those attaching importance to this information. There is another and graver fault, however, that we would call attention to, a vital one indeed, and that is the gross carelessness with which the clerical work of indexing has been done. As an example, the following were met with in glancing over the work at random: Plate 12, *Centaurea candidissima*, is not mentioned in the index, nor could we discover, without this help, any reference to it in its alphabetical order; *Tagetes patula*, Lin. (p. 706), is not indexed; *Ticorea jasminiflora*, A. St. Hil. (p. 724), is not indexed; *Gynocardia odorata* is indexed 273 instead of 173; *Voa Tanghing* is entered in index in W; *Echium vulgare*, Lin. (p. 253), is not indexed; *Waldivia* (p. 744) is not indexed; the first colum of E index needs rearranging for alphabetical sequence; *Tylophora asthmatica*, W. & A. (p. 739), is not indexed, etc. Space alone prevents us from making the list longer.

Although North American plants are exceedingly well represented in the letter-press, they are distinguished by an almost complete absence of wood-cut delineation. Their vernacular names also appear to be strangely ignored, and this is the more noticeable when native African, Malayan, and E. Indian names are so frequently given. Although the botanical names are found, we look in vain for the (to us) equally familiar mandrake, poke-root, ladies'-slipper, blue cohosh, golden-seal, etc.

The most recent additions to Materia Medica are well represented; we notice *Anhalonium Lewinii*, Henning; Pichi; *Naregamia alata*, W. & A.; Jamaica Dogwood; Manaca (not indexed, by the way); Lippia Mexicana; *Orthosiphon stamineus*, Benth.

The book is most elaborately illustrated, containing no less than 1034 wood-cuts and 40 magnificient chromolithograph plates. It contains in addition to the general index already referred to, a therapeutic index which will be found useful for many purposes. The "*Plantes Médicinales*" is certainly worthy of a place in the library of everyone who desires to keep himself posted in the latest discoveries in economic botany, materia medica and therapeutics.—G. S.

A Laboratory Guide in Urinalysis and Toxicology. By R. A. Wilthaus, M. D., Professor of Chemistry and Physics, Medical Department of the University of New York. Second edition. Cloth; long 12mo.; pp. 76. Published by Wm. Wood & Co., New York.

Too much praise cannot be given this little volume, not alone on account of its conciseness and convenience, but also by reason of the form in which it is gotten up, rendering it available for the chemical table. A most excellent feature is the interleaving for notes and memoranda. It is the most complete manual of toxicology of its class, and in every way trustworthy. Every physician and pharmacist should have a copy.

Kew Gardens Bulletin, April 1890.

This number contains an interesting review of the present recorded information on Canaigre a new claimant to attention as a tanning material. It is the root of *Rumex hymenosepalum*, Torr., which is indigenous to our Southwestern States. Some sanguine hopes are expressed relative to its adaptability to replace gambier. Other papers of this number are CXXXIX, Pistachio Cultivation in Cyprus; CXL, Indian Sugar; CXLI, Mites on Sugar-cane.

Facetiæ.

DOSE THE SECOND.

[We naturally expected, when sending Mr. A. Nother out as special correspondent, that he would get into more or less trouble; we felt assured of it when he took the erratic Spiffkins as his travelling companion; but we were hardly prepared for such a calamity as that set forth in the following telegram, and extract from a local paper, which we reprint. These will fully explain why the May issue of the BULLETIN contains no contribution from A. Nother.—EDITOR.]

MUDHOHL, N. Y.; May 3, '90.

DR. ——

We are jugged. Send rocks. 5 X. Q. S. Remain in limbo till 17th. Have mailed copy of *Pyramid*.

A. NOTHER.

N. B.—Send at once, one M. D. diploma.

[*From the Mudhohl Pyramid, May 3d.*]

About 4 o'clock yesterday afternoon, two rather peculiar looking individuals were seen approaching the

"*Their ears were assailed by piercing shrieks.*"

town along the MacDougall road. Arriving at Caleb Schwartz's house, in Dean street, it appears they asked for a drink of water. While they were enjoying the cooling draught, kindly presented by the hospitable hands of Dame Schwartz, their ears were assailed by piercing shrieks from a child evidently in great physical agony. The more corpulent of the two individuals—in fact, the *only* corpulent one, as his companion could make no just claims to such a distinction—inquired of Mrs. Schwartz what was the cause of the infantile wailing, and was informed that "liddle Yachob he fi'l hisself full of tried-abbles dot vas but to soag, and dey have died his liddle powels in schlib-knots"—that she had sent for the doctor, but feared "liddle Yachob" would be a candidate for angelic honors ere he arrived. While the good woman, with many gestures and a flood of tears was relating the youngster's troubles, the stout party, who we believe is called Spiffkins, and who, by the way, is possessed of a most compassionate disposition, had taken from his knapsack a small leather case, and, pushing boldly past Dame Schwartz, entered the house. Mrs. Schwartz was about to follow, when the lengthy party, A. Nother by name, said blandly: "Pardon me, my good woman, but you let Mr. Spiffkins alone. He will give little Jacob a most potent draught which will speedily disentangle those annoying intestinal snarls. Ah, Madam, you don't know Spiff. The world does not recognize his worth. He is a marvel, a magician, the genuine seventh son of poor but dishonest progenitors, a regular West Indian *hoo-doo!* Why, Madam, I have seen Spiff——Ah! by the way, I presume this party, in sable garments, approaching, is the doctor?"

Such, indeed, proved to be the case. Our respected fellow citizen and coroner, Dr. Hellebore, with his well-known stately stride, drew near to the party. Mr. A. Nother made a salaam worthy of a Moslem, Mrs. Schwartz grasped her apron daintily with the thumb and finger of each hand, gracefully shoved her left foot past her right, and dropped her body about eight inches; Mr. Spiffkins appeared in the door-way, bearing little Jacob upon his expansive shoulders; he carefully placed his left foot, toe downwards, with the heel touching his right ankle, waved his right hand in a mesmeric fashion and said: "Ah there!" Dr. Hellebore permitted his head to incline three-eighths of an inch. The Doctor was the first to break the impressive silence. "You wished me to call Mrs. Schwartz?" "May I see the patient?" "Vell I did vant you Doghder, bud dis ghentleman," pointing to Spiffkins, "haf cured liddle Yachob, und you vas somedings doo pehindhand." "And who, pray, is this *gentleman?*" said Dr. Hellebore. "That, sir, is Mr. Spiffkins, and I, very much at your service, Mr. Adolphus Nother, Special Correspondent of the "DRUGGISTS' BULLETIN"; we are both humble pedestrinating pharmacists," was the information glibly volunteered by the cadaverous party.

"What," exclaimed the Doctor, forgetting for the moment his usual self-possession, "only common druggists, and you have dared to prescribe medicine without possessing a medical diploma! You shall hear from me, sir! You shall most certainly hear from me!" And the Doctor started down the street in a most furious state of temper. The two "humble pharmacists" made light of his choler, thanked the good dame for her kindness, received her blessing for curing "liddle Yachob," and inquiring the way to the best hostelry, were soon strolling down Block St. with a dozen ragged gamins and as many mongrel curs following closely in their wake.

After a hearty supper at the "Blivens House," the two travelers sat quietly smoking in the reading room, telling racy stories of their tramp, and causing many a hearty laugh by their drolleries. In the midst of a side-splitting recital, with which Mr. Spiffkins was regaling his auditors, officers McDowell and Rooney entered the room, walked straight up to the group, and produced a warrant for the arrest of Jacob Spiffkins and Adolphus Nother, sworn out at the instance of Dr. Hellebore. Mr. Nother cooly examined the warrants, carefully tipped the ashes from his cigar with his little finger, and said, "Gentlemen, I am exceedingly sorry that a pressing invitation from our old friend, the chief of police, will prevent Mr. Spiffkins finishing his recital. Officers we are at your service." Carelessly lighting fresh cigars, and bidding all a pleasant "good night," they accompanied the minions of the law, and ere half an hour had elapsed a reporter of the "*Pyramid*" saw them in a cell at Number 3 Station, apparently as little discommoded as though enjoying the luxuries of the Blivens' parlors.

At 9 o'clock this morning, they were called for trial before Justice Munroe. As it was likely to prove a case of more than passing interest, the court room was crowded. Lawyer Magnacranium was to conduct the prosecution, while Mr. Nother intimated, with considerable assurance, that he would conduct the defense himself. The prosecution opened by calling on Dr. Hellebore as the first witness. Being sworn, Dr. Hellebore deposed as follows: "Am a physician by profession, 39 years of age; was called yesterday afternoon, about 3 o'clock, to attend a child of Caleb Schwartz, supposedly suffering from colic; arrived at the gate of Schwartz's house about 4 o'clock, found child in perfect health. Was informed by Mrs. Schwartz that one of the prisoners had administered some draught which had cured said child. Prisoner not being a physician, on his own recognizance, I determined to prosecute, as his action was irregular, illegal and altogether pernicious."

Cross-questioned by Mr. Nother:

Q. "From what school were you graduated?"

A. "New York."

Q. "Do you usually wait an hour before relieving patients of pain, perchance saving their lives?"

A. "As I consider that purely within the limits of professional privilege, I refuse to answer."

Q. "While the New York College granted you a diploma to save life, did it also give you immunity from prosecution should your neglegence or incompetency cause death?"

A. "That I also refuse to answer."

Q. "If I administered a glass of water to a person perishing of thirst, and thus save that person's life, would I lay myself open to prosecution from some member of your profession for prescribing and administering a course of treatment, without possessing a medical diploma?"

A. "I fail to see any parallel between the two cases."

"You may step down."

The next witness called was Mrs. Schwartz who simply coroborrated Dr. Hellbore's testimony although she made a strong plea for the good gentleman who had saved her boy's life.

Lawyer Magnacranium then wished to call Schwartz's child as a witness, but was overruled. He also wished to produce the case of colic against the defense, but failed in this also; the Court showed at great length that colic could not be sworn and was of such an unreliable nature that this Court could not admit of its testimony, no matter how pertinent it might be when on its own stamping ground. The prosecution here rested. The defence then took up the case, calling upon Mr. Spiffkins as first witness. He was sound asleep and had to be roughly shaken by an officer ere he was sufficiently awake to be of any use. Being awake, deposed as follows: "Am a pharmacist, at present tramping as a possible means of reducing my adipose. Am of a compassionate and philanthropic disposition. Cannot bear to see suffering without trying to alleviate it. Called yesterday afternoon at the house of Mrs. Schwartz for a drink of water, found her child suffering from a severe attack of dried apple—I mean colic; immediately administered a dose of chlor-anodyne from my case when, —Presto! exeunt colic; little Jacky well, mother happy.

"That is all I have to say. If it is illegal to save life, when no *legalized* life-preservers are near, then am I guilty of a misdemeanor? If it is not, then—well your Honor knows best in what position I stand."

Nothing further of importance was elicited from the defence. In fact, as Mr. Spiffkins' testimony had been a direct avowal of the charge, further investigation was deemed superfluous. His Honor, in summing up said, "This case is one of unusual interest as touching the privileges and prejudices of both medical and pharmaceutical professions, and I would have preferred hearing it argued by competent and qualified counsel on both sides. The gentleman who conducted the defence should bear in mind that there are other professions, aside from the medical, upon whose preserves he may not poach without, perhaps, suffering certain inconveniences. That it is illegal for any person, not a physician, to diagnose a case, administer any course of treatment, or prescribe any drug, chemical, or medicine of any kind whatsoever, is universally recognized—among the medical profession—as just and proper. You have, on your own testimony, shown that you were guilty of infringement of this privilege, and in a particularly exasperating way, as our good citizen, Dr. Hellebore, has so touchingly shown. That child was the Doctor's own particular prey—I mean charge. He was the only person who had any right to save its life, as he had been professionally called to do so, yet you step in, and with your potent remedy, do maliciously save its life, and then taunt the Doctor by showing him the child perfectly well and throwing the vulgar phrase 'Ah there!' at his head. This was the refinement of insult. You should also have considered the personal danger you ran by attempting medication under such circumstances. Had the diminutive Jacob died after taking your draught, you would have been apprehended for malpractice, but you might have stood quietly by and watched Dr. Hellebore *allow* him to die and not even be summoned as a witness. Thus you observe the wisdom of leaving such matters entirely to the members of the medical fraternity. If little Jacob was to get well, it was Dr. Hellebore's place to get the credit of *making* him well. If he was to die, it was Dr. Hellebore's particular province to *help* him and thus keep the finger of vulgar suspicion from pointing at irresponsible parties. Taking the case in all its phases, you have acted in a very pernicious manner—firstly against our good and much respected fellow citizen Dr. Hellebore; secondly against the dignity and beauty of the law; of course you presumably saved a child's life, but what is that as against professional privilege?

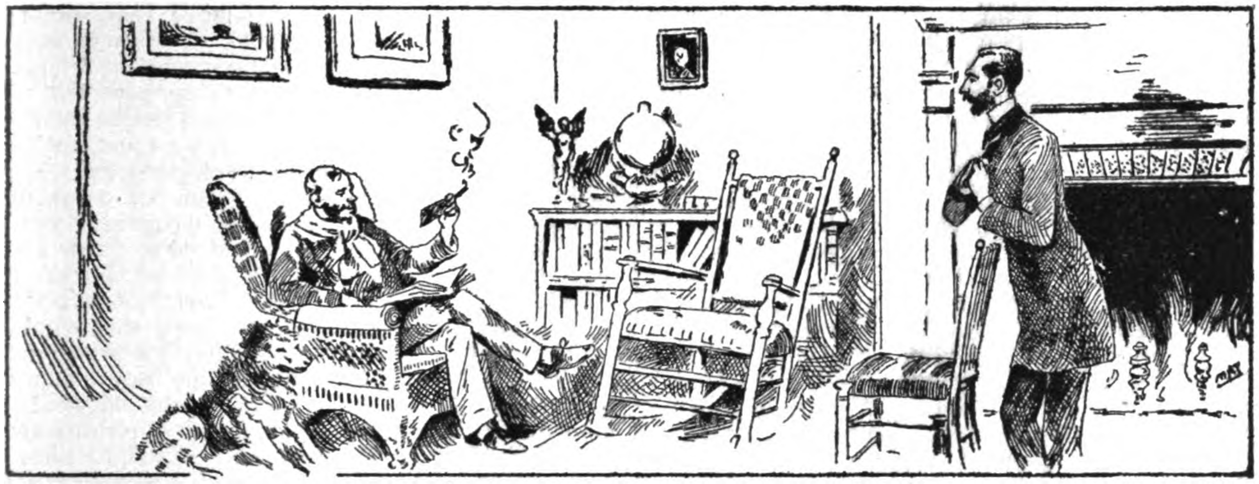
You have therefore been guilty of a grave misdemeanor, and the sentence of this Court is (will the officer kindly waken the stout prisoner till he hears his sentence) that you pay a fine of $50.00, and be imprisoned in the county jail for fourteen days, and may,—ahem—the Court is now adjourned."

At the conclusion of this sentence Mr. Nother stood silent and grim as a statue, Spiffkins had been gradually falling asleep, and as the last word was spoken precipitated himself across the knees of Dr. Hellebore, but was immediately pulled from this sacred spot by Lawyer Magnacranium. Officers now came forward and took the prisoners to the van awaiting them outside the courthouse. They will enjoy the hospitality of warden O'Rourke's castle till May 17th, when they will no doubt be driven by their Bedouin instincts to furnish excitement for some other sleepy hamlet.

(*To be continued.*)

A young physician was showing a friend a recent purchase he had made in the way of a skeleton. "Very interesting," commented his friend. "One of your patients, doctor?"—*Ex.*

HARD ON THE REGULARS.—A regular physician was summoned to attend a member of Mrs. Malaprop's family; he expressed some surprise at being called, knowing the lady in question to be an ardent follower of homœopathy. "Yes," said Mrs. M., "I have changed my views; the homœopaths are good for infant-ry, but the regulars are best for adult-ry."—*Phila. Medical World.*



Physician (*who thinks his patient, a college professor, more in need of recreation than drugs, but has written a prescription for a mild tonic*): HERE IS A PRESCRIPTION, PROFESSOR, BUT WHAT YOU NEED IS A GOOD HEARTY LAUGH.
College Professor (*glancing at the paper*): HA, HA, HA! HO, HO, HO!
EH? WHAT ARE YOU LAUGHING AT?
YOUR LATIN.
—*Life.*

Abstracts and Translations.

The Inherent Rights of Pharmacy.*

Accumulated knowledge, especially scientific knowledge, is, to-day, an almost boundless, fathomless sea; its borders as far out-reach the scope of the specialist as its depths go beyond the comparatively superficial eye of the more comprehensive thinker. But happily the bounds of justice are now, as ever before, best measured by the one simple rule—"Do unto others as you would be done by."

Before making my plea, I beg with most respectful humility that the honorable body before which I stand, consider me not presumptuous, nor pre-judge the cause—rather let its members bear with me, trying all the while to discover the truth as it is, while I strive to throw, not the direct light of original thought, but the reflected light of experience and observation upon the pathway leading up and to its better establishment. The real relationship pharmacy bears to medicine must be of primary consideration in a matter like this, and to get at the very fullest understanding of it we must ask: Who or what is responsible for the existence of the pharmaceutical body? You have but to claim the pre-existence of medicine or to acknowledge that it formerly compassed within its own field of usefulness, not only the application of remedial agents, but their preparation as well, to make yourselves totally unable to deny that pharmacy is a direct outgrowth of the development of medicine; that the extension of medical knowledge and practice produced this something or what-not which is to-day styled pharmacy. We will not just now discuss the condition of this development, whether abnormal or degenerated, nor does it matter much whether it exists as child or hand-maiden. The fact is patent that it does exist, and for this existence there is a responsibility. The creature must needs have been created. Where, then, is the creator? Upon whom does the responsibility rest? This is no idle question; the honestly ambitious mind of the age considers nothing below its notice that stands in the way of a clear vision of the truth. Certain it is that pharmacy is not, or was not, entirely apart from medicine. From the very first it has been associated with it, although holding, of course, a secondary position, yet a position that might be quite as honorable in its legitimate usefulness. It can find no other parentage. Its course has been rather from than towards its source, a natural sequence when natural laws have full sway. Its subsequent advent, its positive utility and absolute necessity, in some form or another, as an auxilliary to medicine, are some points which sufficiently establish the relationship, without using for that purpose existing tradition.

Let me stop long enough to substantiate my claim of absolute necessity, by saying: Pharmacy includes and comprehends, as they are controlled by her rules and laws, the proper collection of drugs, the satisfactory manufacture of pharmaceutical chemicals, the scientific preparation and adjustment of Galenical products, as well as the dispensing of these medicines, not including those within the curriculum of its teaching which must of necessity be dependent upon pharmacy for their intelligent regulation. Now, then, if we can make good our claim to such a fatherhood, or thus prove the source of our existence, have we not a right, I ask with solemn earnestness, to expect something as a child or creature? And, again I ask, is there not a responsibility—a very grave responsibility—resting upon the medical profession? Will you not, gentlemen, acknowledge and confess the responsibility taken upon yourselves when you adopted your profession; and will you not give us that which we know is our right—that which is absolutely necessary to healthy, moral growth, discipline and encouragement?

---

* By Henry P. Hynson, Lecturer on Pharmacy, College of Physicians and Surgeons, Baltimore, Md., published in *Pittsburgh Medical Review.*

Pharmacy stands to-day just as the neglected child stands. It has gone so far without the necessary discipline, that it seems not to merit the encouragement it really deserves. It needed the careful guidance of a directress. It should have been straightly piloted in its course. It was—it can be now,—as certain as we live, entirely under the control of medicine. The discipline will have to be more severe than would have been necessary at first, and the encouragement more pronounced. Yet the desired end can be easily attained, even at this late day. Justice demands that the wrong be discovered and condemned, and justice is as rigid in her demands that virtue, and truth, and ability be rewarded. The average pharmacist is really human; he is not only vulnerable to censure, but also possesses the ordinary characteristics of men as regards pride, ambition and relative standing. A recognition of any peculiar ability or virtue he may show, is as pleasing to him as it would be to any of you, and yet he is seldom so pleased. I would have you punish the wrong even more severely than you have ever thought of; and then, that this punishment may have some effect, I would have you elevate to a position of credit and influence him who is right and true in his doings. What matter is it to you if it does give him so-called "commercial" advantage? Money and money-getting should bear no relationship to ability or virtue; but, if these give you reputation, and reputation brings you money, does it follow that you should be denied the first because it wins the latter? It would seem but a just and additional reward. To some minds this is orthodoxy as it relates to other professions, but in pharmacy it would be the veriest heresy! This was forcibly brought to mind some time ago, while reading an editorial, in one of our leading medical journals, on standardized preparations. The writer strongly advocated the use of such, showing plainly their advantages; courteously gave credit to a pharmaceutical house for the accurate and comprehensive data it had furnished him; acknowledged, without intending it, no doubt, that this house had taken the lead in presenting this class of products to the profession, and deserved all the credit of this advancement. Going still further, he suggested the propriety of their introduction into the Pharmacopœia. Then, without finding fault with the thoroughly scientific name by which they were already well known, and which had been given these products by this same house, he earnestly warned the Revision Committee of the Pharmacopœia against the adoption of such a name, for no greater or better reason than that it might give that house its merited position or reputation, or, as he styled it, "commercial advantage." Where is the justice, where the encouragement, in such treatment? If the credit due was real, and deserved recognition, then why not recognize it and stimulate others, thereby, to follow with efforts to acquire more legitimate and really desirable attainments. This editorial suggests my opening words. A specialist; a mind which well understood the use, the application of medicines, but knew little about their actual preparation; a mind that could ascertain the true therapeutic action of a new principle, but could not isolate it; a mind so intent upon its own little world that it utterly failed to see that all those around it were impelled by exactly the same forces, and subjected to the same influences. Our day is teeming with such minds, whose scope of management should be kept within the limit of their own special sphere. Humanity must be controlled by the broad, general laws of good fellowship, and I plead that pharmacy may be so governed. The abominable abuses and practices, derelictions and deficiencies, can all be readily righted by rigid and intelligent discipline. The unmanly and fawning bearing, undignified and inconsistent positions, can all be suddenly changed by a proper and kindly recognition and encouragement. And nothing would seem to so greatly help to bring about and establish a better, a truer relationship between medicine and pharmacy, as a better, a truer Pharmacopœia. A Pharmacopœia that would be more a guide-book to compounders; one which would show an improved materia medica and better manipulation; one which, while holding fast to the old, would add to it the new, thereby making a record of pharmaceutical advancement. One comprehensive enough to serve the old and young, the conservative and progressive practitioner, alike. One competent, complete revision, every half-century; a supplement of additions and improvements every decade. From medicine—respectful and exclusive adherence. From pharmacy—patient and conscientious following.

Incompatibility in Prescriptions.*

Important features of incompatibility which there seem to be some difficulty in remembering, and the solubilities and insolubilities of inorganic compounds. To make such knowledge readily accessible, a modified table was framed, based almost wholly on Prof. Attfield's "Statement of the Solubilities and Insolubilities of Salts," which expresses, directly or by inference, nearly 500 soluble and insoluble compounds of the following inorganic basylous radicals: aluminium, ammonium, antimony, barium, bismuth, cadmium, calcium, chromium, cobalt, copper, ferric, ferrous, gold, lead, lithium, magnesium, manganese, mercuric, mercurous, nickel, potassium, silver, sodium, stannic, stannous, strontium and zinc.

In using this table, it is only needful to remember the well-known chemical law: That when a solution of a compound is brought in contact with a solution of another compound, and, by an interchange of radicals an insoluble compound is rendered possible, that compound will be precipitated.

Acetates are soluble.

Arseniates are insoluble, except those of the alkali metals.

Arsenites are insoluble, except those of the alkali metals.

Bromides are soluble, except mercurous and silver; those of antimony and bismuth are decomposed by water to form oxysalts.

Carbonates are soluble, except those of lead (*s*),† mercurous and silver.

Citrates are soluble, except those of manganese, mercurous, silver and strontium, aluminium (*s*), barium (*s*), bismuth (*s*), cadmium (*s*), calcium (*s*) lead (*s*), zinc (*s*).

---

* Abstract of article by J. W. England, Ph. G., published in *American Jour. of Pharmacy*, Jan. '90.

†(*s*) means sparingly soluble.

Cyanides are insoluble, except the mercuric and those of the alkaline metals and earths.

Hydrates are insoluble, except those of barium, strontium, calcium (*s*), and lead (*s*), and the alkali metals.

Iodides are soluble, except those of antimony, bismuth, gold, lead (*s*), mercuric, mercurous, platinum (*s*), and silver.

Nitrates are soluble.

Oxalates are insoluble, except those of antimony (*s*), chromium, ferric (*s*), ferrous (*s*), stannic, and the alkali metals.

Oxides are insoluble, except those of barium, strontium, calcium (*s*), and the alkaline metals.

Phosphates (ortho) are insoluble, except those of the alkali metals.

Sulphates are soluble, except those of barium, strontium, calcium (*s*), antimony, lead, mercurous (*s*), and silver (*s*).

Sulphides are insoluble, except those of barium, calcium (*s*), strontium, and the alkali metals.

Sulphites are soluble, except those of antimony, barium, bismuth, calcium (*s*), cobalt (*s*), copper, ferrous (*s*), lead, manganese (*s*), nickel (*s*), silver, strontium (*s*), and zinc (*s*).

Tartrates are soluble, except those of antimony, barium, bismuth, cadmium (*s*), calcium (*s*), copper (*s*), ferrous (*s*), lead, manganese (*s*), mercuric, mercurous, nickel (*s*), silver, strontium (*s*), and zinc (*s*).

Acids decompose hydrates, carbonates and acid carbonates to form salts; the stronger acids, which are largely inorganic, set free the weaker acids, which are largely organic, or, brought in contact with alcohol or alcoholic solutions, form ethers; alkaline hydrates, carbonates, and acid carbonates, neutralize free acids, decompose some glucosides, and precipitate all alkaloids, some of which precipitates are soluble in excess of the precipitant, or in alcohol, if that liquid be present in sufficient amount to dissolve them.

Oxydizing agents such as nitric, hydrochloric, nitrohydrochloric, picric, and chromic acids, and potassium bichromate and permanganate, with readily oxydizable substances, such as carbo-hydrates, alcohols, ethers, sulphur, phosphorus, sulphides, and organic matter, in general, form explosive compounds. Potassium permanganate, if ordered in pill form, can best be made with cacao butter and cosmolin in very small quantity, and enclosed in gelatin capsules. Silver nitrate is reduced by organic matter to oxide, with the exception, it is said, of opium and hyoscyamus. A very good way of making pills of it is with cacao butter and cosmolin, etc., as mentioned above, under potassium permanganate; syrup of ferrous iodide and potassium chlorate, form a poisonous compound, and potassium iodide and potassium chlorate form a mixture which yields the poisonous iodate on being taken internally.*

Iodine and the iodides yield precipitates with the alkaloids; bromides precipitate morphine and strychnine salts on standing, but a few drops of dilute hydrochloric acid added, after the addition of the alkaloid, prevents the change. Sodium biborate precipitates morphine and cocaine salts, but on the addition of a small quantity of boric acid, or with boric acid alone, precipitation does not take place. Mercuric chloride with acidulated solutions of the alkaloids, forms crystalline double salts; potassium mercuric iodide precipitates alkaloidal solutions. Solutions of quinine salts with those of the alkaline acetates, or with Basham's mixture, precipitate the sparingly soluble quinine acetate. Morphine solutions give the phenol reaction, if mixed with tincture of ferric chloride.

Glucosides are decomposed by free acids and precipitated by tannin; tannic and gallic acids precipitate alkaloids, albumen, gelatin and the majority of metallic salts, and yield inks with iron solutions.

Resinous tinctures and fluid extracts, prescribed with aqueous solutions, should always be emulsified with acacia; tinctures and fluid extracts made of stronger alcohol, mixed with those made of diluted alcohol, become turbid and precipitate, since the special solvent power of alcohol or of water for a substance, diminishes in proportion to the quantity of the other liquid present. A "shake" label should always be used.

When for internal use, fixed and volatile oils and oleo-resins and aqueous solutions, should always be emulsified, whether ordered or not, and, to better emulsify the volatile oils, they should have mixed with them prior to emulsification, an equal volume of olive, almond or cotton-seed oil.

Tincture of ferric chloride gelatinizes mucilage of acacia; free acids separate insoluble carminic acids from compound tincture of cardamom; free acids precipitate glycyrrhizin from fluid extract of liquorice.

Commercial spirit of nitrous ether liberates iodine from solutions of iodides, decomposes antipyrin solutions to form a green nitro-derivative, and precipitates mucilage of acacia, but if it be well diluted with water it can usually be added to the last without precipitating. Tincture of guaiac and spirit of nitrous ether are stated to be pharmaceutically incompatible by Potter (although they are often prescribed together), likewise infusion of wild cherry with compound infusion of gentian, and infusions with metallic salts generally.

Sodium salicylate in solution precipitates the sparingly soluble salicylic acid if mixed with acids, and yields, if dispensed in powders with potassium acetate, the very deliquescent potassium salicylate. Sodium salicylate in strong solution is decomposed by tincture of ferric chloride, but if well diluted first, changes only into ferric salicylate. Sodium benzoate solution is decomposed by acids to yield the sparingly soluble benzoic acid.

Mercuric chloride is decomposed by solution of potassium arsenite, but if the alkaline solution has first added to it, in slight excess, diluted hydrochloric acid, no precipitation will take place on the addition of the mercurial salt; pyrophosphate and phosphate of iron solutions precipitate with dilute phosphoric acid. The National Formulary recommends the usage of dilute metaphosphoric acid, in place of the official "ortho" variety, as yielding a permanently clear solution.

In conclusion, the writer would say that in these "notes" presented, he has endeavored to give, not an exhaustive list of special incompatibles, but simply a general expression of those liable to occur in the everyday routine of prescription work.

---

* *Am. Jour. Phar*, 1876, p. 277.

What to do with an incompatible prescription is a question for individual judgement, and cannot here be entered into. The usual practice, in the event that the prescription involves no serious change, is to accept the situation and dispense as written. On the other hand, where some serious change is liable to take place, it is almost superfluous to state that it is the duty of the pharmacist to consult the physician before dispensing.

Pharmaceutical Progress.

TYPE-WRITER INK.—In experimenting upon a compound suitable for use as ink for a type-writing machine, Mr. Shuttleworth made the observation that many of the salts of the anilin series are soluble in castor oil (*Canad. Pharm. Journ.*, Jan., p. 81). Methyl violet is especially so, and advantage can be taken of this fact to prepare an ink of remarkable power, admitting of a large number of copies being taken from the same impression. Nigrosin was not experimented with, but it would seem possible that with it a black ink of some intensity might be produced. The incorporation and solution of the anilin in the oil can be effected on a small scale by triturating the previously powdered pigment with the oil in a mortar, the operation being sometimes facilitated by the addition of a little alcohol. Various colored inks for stamping pads might be produced in the same way, though it has not yet been determined whether such mixtures would exercise a deleterious influence on the rubber stamp.

EXALGIN.—There has been an increased demand for this new remedy in Edinburgh. One or two cases of severe cyanosis, followed by collapse, had almost forced it into oblivion, when Professor T. R. Fraser published some results obtained by using small doses. Since then it has been in great demand in powders containing 2 to 8 grains, and also in mixtures, such as—

℞	Exalgin	grains xxiv.
	Sp. vini rect.	ʒ iij.
	Aquæ	ad ℥ iij.

Solve.

Also in capsules or pills containing—

℞	Exalgin	grains ij.
	Ext. belladonnæ	grain ⅛.

Should it be generally prescribed, I predict a number of dispensing difficulties, for its solubility is just sufficiently equivocal to tempt prescribers to order it dissolved and added, as it is sure to be later on, to incompatibles.—George Lunan in *Pharm. Journal and Transactions.*

GLYCERINUM BELLADONNÆ.—Prescribers frequently order, "glycerin extract of belladonna, of each equal parts," and dispensers are occasionally puzzled to know what proportions are actually intended in such an order. Thus it might mean equal parts by volume or equal parts by weight; or the physician, actuated by the usual custom, might wish one part by weight to be mixed with one part by measure, and probably this is the intention in most cases. A formula for the preparation is published in the 'Extra Pharmacopœia,' but even that is not quite so definite as it might be, inasmuch as the final measure of product is left undecided. In making several ounces, particularly at the dispensing counter and in a hurry, one likes to have precise data to work upon, and it would be a distinct advantage to have authoritative directions laid down in the forthcoming Appendix to the British Pharmacopœia. The following slight modification of Mr. Martindale's recipe gives excellent results both as regards rapidity of manipulation and consistence of finished preparation. The latter is quite thick enough to please both physician and patient, and still not too thick to pour comfortably into a poison bottle:

Take of—

Extract of belladonna	2 ounces.
Glycerin	2 fluidounces.
Warm water, 5 fluidrachms or a sufficiency.	

Place the extract in a warm mortar, and rub it smooth with four drachms of the water gradually added; mix in the glycerin, and transfer to a bottle; rinse out the mortar with the remainder of the water, and shake the rinsings with the main portion, making the final measure four fluidounces.—William Johnson, in *Pharm. Journ. and Transactions.*

THE ADMINISTRATION OF CHLORAL.—Widerhofer recommends the following in the treatment of convulsions in children:

℞	Chloral	gr. vijss to xl.
	Water	f ℥ ij.
	Syrup of bitter orange-peel	f ʒ v.

Teaspoonful to be taken every two hours.

The following has been recommended by Yvon for administration to adults:

℞	Chloral	gr. xxx to xlv.
	Bromide of sodium	gr. xxx to xlv.
	Syrup of codeine	ää f ℥ ss.
	Syrup of bitter almonds	
	Water	f ℥ ij.

The following is likewise recommended by Yvon in cases of asthma and dyspnœa:

℞	Chloral	gr. xxx to lx.
	Iodide of sodium	gr. xxv.
	Simple syrup	f ℥ v.

Tablespoonful to be given every hour.

As an enema in infantile convulsions the following has been proposed:

℞	Musk	gr. iij.
	Chloral	gr. vijss to xv.
	Camphor	gr. xv.
	The yolk of one egg.	
	Water	f ℥ ij.

As a suppository, chloral may be used in the following combination, in which the caustic and irritating action is largely overcome:

℞	Chloral	gr. vijss.
	Extract of belladonna	gr. ⅓.
	Cocoa-butter	gr. xlv.

—*Revue Gen. de Clinique et de Therapeutique.*

MEDICATED COTTON.—The new Dutch Pharmacopœia (*Pharm. Neerlandica*) has a series of antiseptic cottons, as follows:

Styptic Cotton (*with ferric chloride*).—

Absorbent cotton	75,
Ferric chloride solution (neutral, spec. grav. 1.441–1.448)	60,
Rectified spirit	75.

Spread out the cotton and sprinkle it uniformly with the liquids previously mixed. Then pack in a closed bottle and leave for a day, or until the solution has equally soaked throughout; then dry at a temperature not exceeding 40°, until the whole weighs 100 parts. The cotton contains 25 per cent. of anhydrous ferric chloride. It should be kept in a closed vessel.

Sublimate Cotton.—Take 379 parts of absorbent cotton, and sprinkle upon it a solution of 1 part of corrosive sublimate, and 20 parts of liquid paraffin in 400 parts of ether. Keep for a day in a stoppered bottle, then dry. The final weight of the cotton should be 400 parts. It contains 0.25 per cent. of corrosive sublimate.

Iodine Cotton.—Ninety parts of cotton are heated to a temperature of 80° in a stoppered bottle with the stopper out; while in this, 10 parts of iodine wrapped in a piece of filtering-paper, are introduced, and the heat continued until the iodine has thoroughly impregnated the wool.

Iodoform Cotton.—

Cotton	90 parts.
Iodoform	5 parts.
Liquid paraffin	5 parts.
Ether	90 parts.

Make 100 parts of iodoform cotton in the same manner as sublimate cotton.

Phenol or Carbolic Cotton.—

Absorbent cotton	93 parts.
Phenol	2 parts.
Liquid paraffin	5 parts.
Ether	100 parts.

To be made in the same manner as iodoform cotton. Product should weigh 100 parts.

BACTERIAL POISONING THROUGH MEDICINES.—Many cases of poisoning have been traced to tainted meat, spoiled ice-cream and other articles of food, but until recently none appeared to have been directly traced to medicines, although many solutions of drugs furnish favorable conditions for the development of bacteria. An instance is recorded in which a mixture of whiskey and quinine was ordered, but kept by the purchaser for nearly a month before it was used, and when taken it made the patient sick, with symptoms so closely resembling those of an irritant poison that it was pronounced to be a case of poisoning. The patient recovered, but to relieve the druggist, the mixture was examined chemically and with the microscope. The former method revealed the presence of quinine, and the slimy looking sediment the microscope showed to be almost entirely composed of micro-organisms, with a few particles of woody matter that had served as nuclei for the formation of many colonies. Wherever a piece of woody matter appeared in the liquid, it furnished the foundation for a large community of the bacteria, but as these were dead when examined, it was not possible to estimate the number by cultivation; by other methods it was ascertained that there were probably 150,000 to each c. c. At this rate, a tablespoonful dose would contain about 2,500,000 of the micro-organisms. The users of "Rock and Rye" with their next dose may swallow an invading army equal to that of any first-class European power, and perhaps as destructive. It is difficult to say how the liquid became so filled with the micrococci, as alcohol is supposed to have an inhibitory action on the development of bacteria, and quinine has a retarding action on fermentation. Le Bon, however, states that when once the germs have begun to grow, alcohol acts feebly in checking the growth and in killing them, so that if the bottle had contained some colonies before the medicine was put into it, they might have increased until finally overcome by the alcohol. Dirty bottles may therefore prove a most prolific source of infection, one that druggists should guard against.—H. P. Campbell, in *Am. Jour. Pharmacy*.

ANALGESIN AND ITS INCOMPATIBLES.—The following is a complete list of the drugs and their preparations which we have found to be incompatible with analgesin (antipyrin). Some of them have been previously announced by others, but we have in all cases verified the statements made concerning them, and in some have studied further the nature of the reactions that take place:

Acid. carbolic., precipitated with strong solution.
Acid. hydrocyan. dil., yellow coloration.
Acid. nitric. dil., faint yellow coloration.
Acid. tannic., white insoluble precipitate.
Alumen (ammonia), deep yellow coloration, fading and precipitating.
Amyl nitrite (acid), green coloration.
Arsen. iodid., precipitates.
Chloral hydrate, precipitates in strong solution, no apparent action in dilute.
Cupri sulphas, solution turns green.
Decoct. cinchonæ, precipitates.
Ext. cinch. liq., precipitates.
Ferri sulph., brownish-yellow color, deposits on standing, and solution turns red.
Glycerin acid. carbolici, precipitates.
Glycerin acid. tannici, precipitates.
Hydrarg. perchlor., precipitates, soluble in excess of water.
Inf. catechu conc., precipitates.
Inf. cinch. acid., precipitates.
Inf. rosæ acid., precipitates.
Inf. uvæ ursi, precipitates.
Liq. arsenii et hydrarg. iod., preciptates.
Liq. ferri perchlor. }
Liq. ferri pernit. } blood-red coloration.
Liq. ferri persulph. }
Liq. potass. permang., reduction quickly takes place.
Sodii salicylas (solid), liquefies.
Spirit. ætheris nit. (acid), green coloration.
Syrup. ferri iodid., reddish-brown coloration.
Tinct. catechu, precipitates.
Tinct. cinchonæ, precipitates.
Tinct. cinch. co., precipitates.
Tinct. ferri perchlor., red coloration.
Tinct. gallæ, precipitates.
Tinct. gum rubri, precipitates.
Tinct. hamamelis, precipitates.
Tinct. iodi, precipitates, soluble in excess of water.
Tinct. kino, precipitates.
Tinct. laricis, precipitates.
Tinct. rhei, precipitates.

—[Excerpt from article by E. J. Millard and A. Campbell Stark, *Pharm. Journal and Transactions*.

Notes and News.

Newly Elected Officers of the Chicago College of Pharmacy:—

W. R. Forsyth, President.
Geo. R. Baker, Vice-President.
F. W. Durham, Secretary.
Chas. L. Schaar, Treasurer.
E. A. Zahn, Auditor.

Women Phramcists in Literary Roles.—In a letter to *The San Francisco Call*, Mrs. Emelie Y. Parkhurst writes about female pharmacists on the Pacific coast, saying: "Mrs. Ella Higginson, of Sehome, Wash., whose poems are frequently copied in 'current literature,' is the druggist in the town where her husband is the physician. Mrs. Mary Tracy Mott is the druggist at Brentwood, Contra Costa County, where her husband has been the physician for many years. Mrs. Mott has written many short stories for *Overland* and for *Drake's Magazine*, and contributes occasional articles to the temperance papers. Here in San Francisco Miss Barbat, a graduate of the Pharmacy Department of our State University, took her father's place after his death in a small pharmacy on Pacific street. She afterward entered the employ of the Redingtons."

Foreign Opinion of Brown-Séquard Theories of Testicular Juice.—A reaction of medical opinion has taken place with reference to Professor Brown-Séquard's testicular liquid, and some pharmacists are already predicting that the day is not far distant when testicular preparations will be as regularly prescribed as pepsin, pancreatin or diastase now are. Much attention has, in fact, been given to recent experiments with the liquid by Dr. Mairet, of Montpellier. This scientist tested its action upon insane persons who had become speechless and were in a condition of stupor. According to the report, these patients quickly became lively and resumed conversation after half-a-dozen injections. It is not stated that they were able to talk more rationally than before. By the way, a queer fact about the Brown-Séquard injections is, that the doctors who make them have had an excessive number of applications for treatment from women, nobody knows why.—Paris Correspondent *Pharmaceutical Record.*

Pharmacy in Venice.—A correspondent writes: I have obtained the following information about the *status quo* of pharmacy in the "City of the Sea" from a thoroughly reliable source. I am confident it will interest the readers of this journal. The pharmacies of Venice are very numerous, of necessity, for each physician in the "Queen of the Adriatic" has his favorite chemist, in whose establishment is invariably found a brass plate with his name inscribed on it, placed in a most prominent position on the wall. Here the Venetian doctor passes most of his leisure hours, sitting in a cosy chair in the middle of the pretty Old-World shop, discussing politics and art with all comers, and here, as a rule, messengers seek him when wanted. Yet, strange to say, none, save the lawyers, rank higher in the social scale of Venice than do the physicians, while the apothecary is merely a a respectable, upper-class tradesman; but as "cutting" has not reached the Italian city, and profits are large, the apothecary is usually an opulent man. Many of both the doctors and apothecaries are Jews, and a large proportion of each class are men of letters and write for the local press. Italian pharmacy, on the whole, is equal in every way to British, the only particular in which the Galens of Italy have not equalled us being in our race down the hill from fair to poor prices. This is a very desirable way, however, of being behind the times.—*British and Colonial Druggist.*

The New Home of the Illinois College of Pharmacy.—The Medical and Pharmaceutical Departments of the Northwestern University, the Chicago Medical College, and the Illinois College of Pharmacy, will in the near future occupy new buildings, planned and erected expressly for their enlarged uses.

It is the purpose of both colleges to provide ample, convenient, and thoroughly equipped laboratories and other requisite means for post-graduate work, special courses, and original research, in addition to the most perfect facilities for the regular courses of instruction necessary to graduation.

It is well known that the Chicago Medical College occupies a leading position among the American schools of medicine, having been the first to inaugurate a three years' course, and that the Illinois College of Pharmacy has taken high rank by its exceptionally thorough courses of instruction.

The Chicago Medical College now proposes to establish complete physiological, biological, and pathological laboratories which will be placed in charge of the most able specialists whose undivided services can be secured, and to make correspondingly thorough arrangements for all its other work.

The Illinois College of Pharmacy will have such complete and commodious lecture rooms, recitation rooms, laboratories, museum and library, as will render it by far the most thoroughly equipped college of its kind in all these respects in the United States. This College also intends to provide itself with proper facilities for advanced courses of instruction and original work, and to build up as rapidly as possible a museum and a library worthy of such a school. At the same time it will perfect its arrangements for the regular courses of pharmaceutical education wherever improvement can be made.

The Colleges named have already, with the aid of liberal friends, secured a site which affords abundant space for these objects, and is very conveniently located. This site has a frontage of 450 feet on Dearborn Street at the corner of 25th Street, being thus readily accessible from the cable cars and the elevated road now in course of construction.

The plans for the building will receive very careful consideration, and may not be ready until the season is too far advanced to proceed with the building operations until another year.

DRUGGISTS' BULLETIN

A MONTHLY EXPONENT OF

PHARMACEUTICAL PROGRESS AND NEWS.

VOL. IV., No. 6. DETROIT, MICH., JUNE, 1890. $1.00 a year. Single copies, 10 cents.

THE DRUGGISTS' BULLETIN.
ISSUED MONTHLY.

EDITOR:
B. W. PALMER, A. M., M. D.

COLLABORATORS:
PRACTICAL PHARMACY.
J. LE ROY WEBBER, PH. G., LEON C. FINK.

CHEMISTRY.
F. A. THOMPSON, PH. C., J. b. NAGELVOORT, PH. G.

BOTANY AND MATERIA MEDICA.
H. H. RUSBY, M. D., G. SUTTIE.

PHARMACEUTICAL APPARATUS AND INVENTIONS.
J. B RUSSELL, PH. G.

GEO. S. DAVIS, Publisher,
P. O. Box 470, DETROIT, MICH.

Articles designed for insertion in THE BULLETIN, subscriptions, advertisements, and all communications should be addressed to the publisher.

Editorial.

UNJUST LEGISLATION.

The Committee on Agriculture of the U. S. Senate are now considering a bill for the prevention of the adulteration of foods and drugs, which demands more than the passing notice of every pharmacist in this country, whether manufacturer, wholesaler, or retailer.

The better element in our profession has so long contended for measures calculated to correct the evil at which this bill aims, that it is unnecessary to say that equitable legislation in the direction at issue would meet with the warm support of every reputable druggist. This bill, however, which is known as "Bill 279," as it now stands involves an unnecessary and unwarranted interference with regular commerce in foods and drugs; and it behooves every druggist to enter a firm and unqualified protest against it through the Representatives and Senator of his district.

It must be that our law-makers have overlooked the objectionable elements of the measure, else it could never have received even consideration; and if so, it remains for pharmacists to point out its defects and suggest a means for correcting the same. We know nothing of the origin of the Bill, but must assume from its character throughout that it was drawn up by some one woefully ignorant of the extent of the evil aimed at, as well as the practice of pharmacy in general. Adulteration in the drug business is the exception rather than the rule, and it is not necessary to characterize all as rascals, and restrict trade, because the sophistication of drugs is not an unknown thing.

The National Wholesale Drug Association have, through the Chairman of their Committee on Legislation, Mr. Jones, of Philadelphia, entered a protest against the document, and we feel confident that everyone will lend his influence to its suppression after a perusal of the following review of some of its most flagrant defects.

In the first place, it is proposed to exact a license of $10.00 for the privilege of selling every compound, food or drug. Is it just that the Government should exact such tribute? To the manufacturer of a single proprietary medicine, in which he enjoys an absolute monopoly, the tax of $10.00 amounts to nothing, and he can well afford to pay for the protection which is afforded by the Government to his proprietorship. How is it, however, with manufacturing pharmacists, or retailers who prepare any great variety of private formulas? In some instances the tax would be positively prohibitory; and aside from this, it is an outrage to think of so restricting a line of business which dates its origin from the earliest chapters of history.

Again, the proposed measure prescribes certain regulations in the matter of labeling—an injustice, because an interference with styles of packages which, in many instances, constitute established trademarks. A label, a peculiar-shaped bottle, or both, may have been continually in use for years and years, and retailers and consumers have come to discriminate between a certain brand which they desire and inferior imitations, by this form of package. Therefore, to vest in the Secretary of Agriculture the power to change this order of things at his discretion, will prove to some a very serious matter.

Lastly, the power vested in the Secretary of Agriculture, is too broad and arbitrary. It authorizes him to make analyses of any product offered for sale in the open market, and without according to the suspect proper opportunity for defense, to publish the result of such analyses. Do not understand us as being opposed to official investigation of any food or medicine, but unhappily, faulty analyses are every-day matters and whenever a test discloses sophistication, the manufacturer should be given an opportunity to refute the charges, for no number of public retractions could possibly offset the injury resulting to a reputable house, should an accusation of adulteration be brought against it.

Analyses may be defective, in the first place by reason of faulty methods, as for instance in the case of some new or novel preparation which has not been thoroughly investigated; or, secondly, because of a failure to procure an authentic sample. Furthermore, many pharmaceutical products are inherently prone to deteriorate with time, and as the manufacturers are powerless to alter this peculiarity it would be very easy for a public analyst to find such an article deficient, for no other reason than that it had been held in stock an unwarranted length of time by the retailer or jobber from whom it was procured. This simply illustrates the character of the injustice which may result from accidental causes, and we think therefore, the measure proposed by the National Wholesale Drug Association toward the alleviation of the defect, an admirable one. It proposes that whenever a public analysis is to be made, that the sample procured for this purpose be divided into three parts, one of which shall be given to the suspect, one to the chemist of the Agricultural Department, and a third reserved for confirmatory tests by a disinterested chemist, should a discrepancy exist between the results of the other two.

There are several minor defects in the Bill, but these would naturally be detected and eliminated before its final adoption in any case. For instance, among the definitions of the word "adulterated," as it appears in the Bill, we find the following: "If when sold under or by a name recognized in the U. S. Pharmacopæia, a food or drug differ from the standard in strength, quality or purity, according to the tests therein." This word "differs," it will be observed, precludes the sale of products superior to the Pharmacopœial standards, or differing therefrom in physical appearance. The Pharmacopœia as it exists in this country, is revised but once in ten years. It is not therefore strange that in very many instances the standards prescribed therein, are ignored by manufacturers who would have hard work to market certain of their products unless some were stronger and better than demanded by this authority. Manufacturing pharmacy, notwithstanding the fact that its origin dates back to antiquity, is progressing at a tremendous rate, and in the period elapsing between each revision of the Pharmacopœia decided improvements are made, both in the character and quality of many of the official products. Again, it frequently happens that the processes of manufacture adopted by the Pharmacopœia are only applicable in small operations, and manufacturers are therefore obliged to elaborate methods of their own, which result in products differing in appearance, though not perhaps chemically or physiologically, from those prepared under the official regime.

Let us unite in protesting against a measure so inadequate and defective, and through our Congressmen and Senators effect the final passage of a law better calculated to insure purity in medicinal products and foods.

DRUGGISTS' PROFITS.

There is an impression very prevalent among the public, which has been much fostered by newspaper exaggeration, of the immense profits realized by druggists from filling prescriptions.

The New York *World* recently discussed the subject in a sensational way in a three column article, the gist of its criticism being based on the investigations of a *World* reporter, the facts of which are briefly stated as follows:

The origin of this agitation was a grievance which a gentleman had against a Fifth Avenue druggist, who charged two dollars for a dozen sulphonal powders and a malt tonic. The reporter determined to get at the bottom of the matter, and accordingly obtained a prescription for three bismuth and sulphonal powders, and a 3-oz. cough-mixture in teaspoonful doses. A wholesale druggist told the reporter that the prime cost of the ingredients of the prescription was only 12 cents. Then he began operations. The first dispenser charged him 80 cents for the two; and then he went from store to store, in rich locality and in poor, until thirty-six had been hauled into the bag. He has given every detail of the transactions, including copies of the bills which he got in every shop, which show that the lowest charge was 35 cents and the highest 80 cents.

To those practically acquainted by experience with a druggist's profits, the fallacy of such discussion is apparent.

Pharmacy is a profession as well as a trade, and the qualified pharmacist has devoted several years of his life, and expended much money, to equip himself with sufficient knowledge to enable him to fill acceptably the duties and responsibilities of his position as a dispenser of drugs, ignorance of which would lead to many fatalities.

The public, however, in considering the compensation of the pharmacist, make no allowance for the emolument that should follow work demanding special attainment and education.

In discussing matters affecting the profits of so large and important an industry, it is to be regretted that newspaper critics do not more fully inform themselves of facts. While a druggist of average success may, perhaps, build up a trade of $12,000 a year, his profits on this, when he has deducted his expenses, are far from munificent, as the following illustrative figures will indicate:

Rent	$1000
Clerk hire	1800
Heating	100
Lighting	
Repairing	
Taxes and incidentals	100
	$3000

Now it is probable that such a druggist as we describe would not average on his total trade of $12,000, including prescriptions, sundries, patents, etc., more than 40 per cent., $4,800 a year, which would leave him an income, after the deduction of $3,000 for expenses, of $1,800. Is this, we ask, exorbitant compensation for a position of grave responsibility, requiring years of preparation for its pursuit? We think any candid person would answer No!

It should be remembered also, with the same expenditure, a tradesman, such as a grocer or boot and shoe dealer, could carry on a much larger business, and at profits as high as the druggist averages.

Moreover, the druggist who fills more than twenty prescriptions a day is the exception. Suppose he charges 100, or 200 or 300, per cent. more than the cost of the ingredients of the prescription, does not the physician include in his fee, without protest, a charge for his special knowledge of his profession, and should not the pharmacist be equally privileged in estimating the value of his professional attainments? With twenty prescriptions a day at forty cents each, which is, perhaps, an average charge, though he received 100 per cent., his profits on prescriptions would be only eight dollars a day, and he could not, with this alone, pay his expenses.

It appears, then, that the criticism of druggists' prices is based on a misconception of facts, and that the druggist is "as worthy of his hire" as other professional men.

It can be shown, also, that many patent medicines of unknown formulæ and in some cases of no medicinal value, in others positively injurious or spurious, are sold direct to the public, to their great detriment, at prices vastly higher than original prescriptions for the same are filled by dispensing pharmacists.

As long as the present abuses of the laws relating to the establishing of proprietary rights in secret medicinal formula remain practically inoperative, extortion may be expected. The purchaser pays less for his medicine put up with the skill of an accomplished dispenser, than he does for a patent nostrum of doubtful and often dangerous composition, and it is these latter products that should excite the criticism and attack of the newspapers interested in reforming prices, rather than the fees of the dispensing pharmacist.

PROGRESS IN ETHICS, IN MEDICINE, AND PHARMACY.

In the Code of Medical Ethics, in the purifying waters of which all ethical physicans have been baptized at their medical birth, the following clause appears:

> "It is derogatory to professional character for a physician to hold a patent for any surgical instrument or medicine, or dispense a secret nostrum, whether it be the composition or exclusive property of himself or of others. For if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality; and if mystery alone gives its value and importance, such craft implies either disgraceful ignorance or fraudulent avarice. It is also reprehensible to physicians to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them."

⁂

The spirit and the intent of this provision of the Code of Ethics is certainly clear and pointedly plain. Its observance, however, by the medical profession is the exception rather than the rule. We believe the experience of physicians and pharmacists will confirm the truth of the statement that there are more of the medicines to which the Code takes exception, prescribed and dispensed, than of those meeting the requirements of the Code.

It is needless here to enter into a discussion of the question as to why this is so; it will suffice to say that such conditions indicate a prevailing evasion of the requirements of the physicians' Ethical Code.

To practically awaken physicians to this fact, efforts have been made from time to time to influence medical and pharmaceutical associations to so agitate this subject as to create and enforce legislation in favor of the Ethical practice of pharmacy and medicine. This process is a slow one, however, through the apathy of most of those interested.

A notable step in the right direction was taken at the recent meeting of the American Medical Association at Nashville. This action was the endorsement of the following memorial, presented by the State Druggists' Association of Tennessee, the text of which is as follows:

To the American Medical Association:

The Tennessee State Druggists' Association has delegated us to present to your honorable body a question, the importance of which to your profession as well as to our own, can hardly be over-estimated, and we place it before you with the hope that it may receive at your hands the weight which it merits.

The resolutions adopted by the Tennessee Druggists' Association are as follows:

Resolved, That a Committee of three be appointed to lay before the American Medical Association the great and growing evil of prescribing secret and proprietary preparations by many members of the medical profession; that many of such preparations are glaring frauds; the prescriptions stated on the labels are often misleading, if not fictitious, and that all such preparations should be classed as secret, proprietary, or patent medicines; and that the American Medical Association be petitioned to declare it against its Ethics for any member of that body to prescribe any such preparation. That the Association be requested to discourage their use in every possible way, as in prescribing these nostrums the medical practitioner is really playing into the hands of quackery, thus teaching his patient to dose himself; and that the use of such nostrums is unscientific, and unbecoming a profession striving after exact methods, is unworthy of the age, and against the best interest alike of the professions of medicine and pharmacy, as well as their patients and patrons.

While these resolutions might suffice, we trust a few words in explanation will be allowed. It will be needful to emphasize a few facts possibly overlooked by the busy practitioner.

Have you ever given the published formulæ of these preparations serious thought?—say, "Listerine," a very popular proprietary remedy, the claim of its composition being benzo-boracic acid, *mentha arvenis*, etc.

Now, benzo-boracic acid has no existence; and for a solution of boracic acid, flavored, is it right that you should make the druggist charge $1.00 per bottle? Has it ever occurred to you that a solution of boracic acid will do all that "Listerine" ever did?

Or, for instance, have you given the published formula of "Bromidia" due consideration? Can cannabis Indica be held in solution in an aqueous menstruum? Would not a solution of chloral and potassium bromide in the proportions indicated, always serve the purpose? Also, is not pinus Canadensis (colorless) simply a solution of zinc sulphate? What is "Tasteless Syrup of Quinine, two grains to a teaspoonful?" The label boldly lies to you, as it has been shown not to contain any quinine at all.

But as the most perfect type of these fraudulent preparations, let us present to you "Phosphorized Cerebro-Spinant (Freligh's Tonic), registered copyright secured," and, quoting its label: "Those familiar with the action of drugs know the homogeneous relation they bear to each other, how their pathogenic and curative spheres are enlarged by a judicious combination." Can charlatanism go further? And should any doctor rely on such statement? Yet many eminent physicians prescribe "Freligh's Tonic;" medical editors accept it, adopt and recommend it. The result is, you are not getting what you purpose to prescribe, and from incorrect conclusions as to the therapeutic value of the remedial agents intended to be employed, you are helping to undermine the very foundation of scientific medication, and aiding in building up a class of manufacturers whose methods are unscientific and unprofessional, and who are endeavoring through fair means or foul to obtain endorsement.

We fully appreciate that many of these preparations have been employed, if not thoughtlessly, as a matter of convenience and in good faith; yet you have at the same time given an impetus to self-dosing, and taught your patient the use of many ready-made cures, many of which are duly advertised not only in newspapers, street posters, etc., but in medical journals. Yet, gentlemen, many eminent physicians and college professors have done much in extending this unwise and injurious practice of self-medication.

These few salient points are submitted for your consideration. One State Association has already taken a step in advance: at the last meeting of the State Medical Society of Arkansas, on motion, the Committee on Arrangements was instructed to prohibit the exhibition of secret and proprietary articles in connection with the meetings of the Society.

Gentlemen, we leave this very important question in your hands.

Yours respectfully,
(Signed) AL. A. YEAGER, Knoxville.
STACEY LORD, Chattanooga.
A. A. KLEINSCHMIDT, Memphis.

At the meeting of the American Medical Association in Nashville, the resolutions adopted by the Tennessee Druggists Association, and presented to the American Medical Association were approved of and endorsed at the same time with another adding Pharmacy to the Section of Materia Medica, so now it stands Materia Medica and Pharmacy. Dr. Frank Woodbury, of Philadelphia, was elected Chairman and Dr. W. G. Ewing, of Mississippi, Secretary of that section.

⁂

It will be noted that in this report of the Tennessee State Druggists Association, attention is called to the action of the Arkansas State Medical Association in instructing the Committee of Arrangements to prohibit the exhibit of secret and proprietary articles in connection with the meetings of this society.

To ascertain if other Medical and Pharmaceutical Associations had taken similar action THE BULLETIN has communicated with the Secretaries of the Associations and, although there has not yet been time for reply from all, the following quotations from replies received will indicate the tenor of those at hand and others will be published later as received:

Resolutions Passed by the Nebraska State Medical Society, Secretary's Office, May 27th, 1890.

"Be it resolved, by the Nebraska State Medical Society now in session: That hereafter this Society will not permit the exhibition of proprietary remedies, within the buildings or among the exhibits before said society." Carried.

M. L. HILDRETH.

Resolutions passed by the Wisconsin Pharmaceutical Association.

Second session of W. P. A., held at Portage, Secretary's Office, Tuesday, August 13th, 1889.

Resolved, That the Local Secretary for 1890 be, and is hereby ordered, to strictly enforce the Constitutional provision in regard to the expulsion of secret and proprietary medicines from the exhibit.

Extract from Constitution, By-Laws and Code of Ethics of the Pennsylvania Pharmaceutical Association.

ART. V. At the pharmaceutical exhibition, which may be held at the time of the annual meeting, the following articles shall not be admitted: Proprietary and patent medicines, medicinal and pharmaceutical preparations the names of which have been copyrighted or the complete working formulæ of which are withheld, and such chemical preparations or mixtures which are offered under other than their proper scientifically recognized names.

ART. VI. There shall be appointed by the President, at each annual meeting, a Committee of three on Exhibits, one member of which Committee shall be a resident of the next place of meeting, whose duty it shall be to secure, receive, and consider all applications, and provide for space at the next meeting, and report upon the articles exhibited.

Report from South Carolina Pharmaceutical Association, Offiice of Secretary, June 7th, 1890.

Our Association has never taken any action in the matter you refer to, nor have we ever passed any resolutions forbidding exhibits of proprietary, patented, or trade-mark remedies.

We have never had such an exhibit, and I think our Association would be opposed to it.

PHILIP WINEMAN,
Secretary.

Report from New Hampshire Pharmaceutical Association:

In regard to your inquiry of the 5th, would say that our Association has never taken any action regarding the use of proprietary articles, patent or trade-mark remedies and appliances. Our Association meets in September, and some action may be taken at that time.

C. B. SPOFFORD,
Secretary.

Report from Deleware Pharmaceutical Association:

In reply to your inquiry in relation to the action of our Society regarding the use of proprietary or trade-marked remedies or appliances, the only action taken was the endorsement by the Society of the position taken by F. E. Stewart, that pharmacists have a right to manufacture many of these goods, and a memorial to the American Medical Association asking them to investigate whether the proprietary system is not an abuse of the United States patent and trade-mark laws, and contrary to good government.

JOHN H. HARVEY,
Secretary.

Report from Arkansas Pharmaceutical Association:

Your inquiry comes just before our meeting, when I think a reaffirmation of this matter, made some two years ago, will be made.

At that time we only went so far as to request of physicians that they desist from prescribing patent or so-called trade-marked articles. But the stand taken by our State Medical Society, at their last meeting, gives me hope that we can refuse to give them countenance in any form whatever.

Spaces for exhibits of such goods was positively refused at this meeting; and one exhibitor, who came here, expressed himself to me in no polished terms at the decision.

I think our proceedings will show some action again on this subject.

J. W. PUDELMAN,
Secretary.

Report from Connecticut Pharmaceutical Association:

We do not encourage exhibits of such remedies as are styled patent.

FREDERIC WILCOX,
Secretary.

It would appear that the subjects of exhibits at conventions of pharmacists and physicians; and prescribing by physicians of proprietary medicines, is receiving not a little attention.

To those who recall the history of this reform, it may be interesting to review the part taken in it by the American Medical Association relating to exhibits at Medical Conventions.

Dr. Wm. Brodie, an ex-President of the Association, at a meeting held two years ago placed before the Association a resolution having for its object either the total discontinuance of exhibits as at present organized, or to so modify the conditions as to have the character of products exhibited investigated by a Committee of the Association before they were admitted for exhibition.

A storm of opposition inspired by exhibitors, or their representatives, was the result of the discussion elicited, and for a long time thereafter there were a few journals subservient enough to defend the exhibits, good or bad, regardless of the announced principles of the Ethical Code.

Reason finally ruled, however, and in accordance with the By Laws, the resolution made was laid over for one year for consideration before final action. That the remedy suggested for the present evils of exhibits, and their control, has now been endorsed by the Association at its late meeting, and that the presentation of the subject came through a Pharmaceutical Association, indicates the progress that ethics is making in both medicine and pharmacy.

DRUG CLERKS AND SOCIALISM IN PHARMACY.

The *Chemist and Druggist*, May 3d, 1890, considers this question in a judicial way, and is inclined to the opinion that the lot of the drug clerk is not an especially unhappy one.

"In almost every scheme of betterment the competition which exists in the legitimate ranks of pharmacy is a neglected quantity. Were we to sweep away stores and limited companies to-morrow, we should still have left in the legitimate ranks as great an obstacle to pharmaceutical equality. There are 'cutters,' men of indifferent training, men of high attainments, and men in whom the commercial faculty is strongly marked. It is Utopian to suppose that all these could be reduced to a dead level. And as long as one man is more successful than another, that other will feel that he has a grievance.

"Socialistic ideas have entered the drug clerk quarter, and the result is a number of highly-spiced communications dealing with generalities, none of them specific in regard to real grievances. There is something about long hours, something vague about insufficient remuneration, and a little about hard work. The employers in pharmacy touch very little 'unearned increment;' and the assistants cannot claim to do much toward creating the wealth of the tyrant masters. When he assures the wage-earners of education and means that they are 'morally responsible for the condition of uneducated, unskilled workers,' he lays himself open to the reply that there is no room for these latter persons in pharmacy; and we do not think that they are so numerous amongst the present race of druggists' assistants as to call for union. Amongst the large majority of assistants, the educated and skilled ones, there is no thought of the grievances which some of our correspondents write about. Hours are somewhat shorter than they were ten years ago, and the rate of remuneration has substantially improved. Apart from that, the facilities which assistants now have for a thorough pharmaceutical training are better, employers generally being men of education, able to appreciate merit, and to give free scope for the development of business. Remuneration for services does not stop with the payment of a salary. The recipient in most cases is gaining experience, which he will only too eagerly employ when he owns a pharmacy himself. This applies especially to those who assist in old-established pharmacies and historic houses, and they, we believe, form a large proportion of the assistants in the country. Assistants have to bear in mind that they are the masters of the next generation, that the trade then will require all the education and skill which they can at present acquire, and that their present condition is transitory, and should be used to the best advantage for their employers first, and themselves afterwards.

"Commercially speaking, there are few classes of young men who have to secure a position as chemists' assistants. Unlike clerks, every one has the prospect of getting into business; their social position is superior to that of the best tradesmen; and their incomes are, on the whole, more than adequate for the maintenance of young unmarried men."

Original Articles.

PRACTICAL PHARMACY.

THOUGHTS ON CURRENT TOPICS.

BY H. M. WHELPLEY, M. D., PH. G.

Travel is undoubtedly one of the greatest of modern educators. It broadens a person's views and opens up many new fields for thought and investigation. Travel not only makes one more contended with himself, but causes a person to become a more desirable citizen and factor in any community. One of the immediate results of our National organizations is to cause people to travel. It is not generally so stated in the aims and objects of the preamble, but members of the American Pharmaceutical Association, for example, travel thousands of miles every year that they would not traverse if it were not for our annual gatherings to call them away from home. The profit and pleasure of a meeting is not all concentrated in the proceedings, and a careful investigation would show that many attend the meetings as much for the pleasure of the journey as they do for the privilege of partaking in the Convention.

While the National Association takes the members long distances from home and usually introduces them to our larger cities, the State and local organizations are also exerting an influence in the same direction. The smaller societies, owing to their number, call many more from their homes, and thus make the aggregate amount of travel greater than it is with the National Association.

The arrangements which are made by the local members when an organization meets in a large city or other place with special points of interests, are such that the visitors always see much more than they would as stray tourists. Those who travel very much soon learn this, and every Convention has delegates or visitors who come, not for the proceedings, but to enjoy the sights and take advantage of excursion rates.

It is far from my desire to convey the idea that the feature of meetings to which I have referred is the main one; but few would agree with me in the expression of such an opinion. The success of a meeting depends on the transactions of the Convention, and not on the sights in the locality or the distance traversed. The benefit of travel falls only to those who participate, while the published proceedings may be of such value that they will be appreciated where ever they are read.

It is this kind of proceeding and style of meeting which I look forward to at Old Point Comfort, commencing September 8th. The American Pharmaceutical Association has returned, as it were, to the land of its home, and we will have many with us who were unable to take the trip across the Continent last year. A list of the papers to be read, as far as they have been reported, will soon be published so that the members can look up the subjects and come to the meeting prepared to discuss them.

While the members are responding quite well to the call for papers, we shall still miss the liberal supply in both number and quality made by the California members last year. The contribution to pharmaceutical literature made from the Pacific Coast for our last meeting was, to me, one of the most gratifying features of that grand trip and occasion. It showed us that we did not measure the breadth of the Continent to find fruitful lands and gigantic trees alone. We had added to these grand features of the occasion the fruits of the work of pharmacists and other scientists who compare favorably with any within our ranks.

It is probable that before this is in print, there will be a new member of the Missouri State Board of Pharmacy. Mr. M. W. Alexander, who has served since the organization of the Board, nine years ago, has resigned, and the papers are now in the hands of the Governor. Acting upon the suggestion of personal friends, the Governor has left it to the Missouri State Pharmaceutical Association to nominate two or three pharmacists for the position, and from whom the Governor will appoint one. This is a new departure in pharmaceutical affairs in this State. The Missouri State Pharmaceutical Association and the St. Louis College of Pharmacy are the parents of the State pharmacy law, but in the past there has not been even as much as a report from the Board to the State Association. When I proposed a few years ago that the law be so amended that the State Association shall nominate candidates for the Board, I found that there was not the slightest show for such an amendment to pass. I do not suppose that we are much nearer such an amendment at present, but Governor Francis has set a good example, and possibly it will be followed in the future.

State boundries, like the equator, are imaginary lines, but somehow they are often very plainly drawn when it comes to law making and law enforcing. The pharmacists of Arkansas on the south of us, who are good men and true, have been trying for several years to secure the passage of a State pharmacy law. As yet they have not succeeded. Here in Missouri we have had a pharmacy law for nine years. It is a good law as far as it goes, but there is not sufficient provision for enforcing it. The State of Illinois, on the east of us, also has a pharmacy law, and such a one that we could not think of securing here. The entire Board is under the control of the State Pharmaceutical Association. It again differs from ours in having so great provision for the enforcement of the letter of the law, that at one time its very stringency and the manner in which it was enforced came near strangulating it, and thus defeating its own ends.

When I think of this state of affairs, I realize that a National pharmacy law must be on very broad principles to meet the demands of all sections of the country. Nor can I favor the much-cried-for interchange of certificates, which may be desirable, but is certainly impracticable with such discrepances in the State laws, in their enforcement, and in the Boards of Pharmacy and examinations. Let us worry along for a while with the present course of events, and the time may come when a pharmacist registered in one State can re-register in another without an examination.

The State pharmacy law of Missouri, weak and defective as it is, has had an effect on the welfare of the profession here. Registered drug clerks can secure positions more readily than those who do not have such documents, and in most cases they receive higher salaries. A few years ago a drug clerk scarcely knew what was meant when asked if he was registered. Now the young men state in their advertisements for positions that they have complied with the law by registering. We also see advertisements for "registered drug clerks" and it has not been long since they were scarce (both the registered clerks and the advertisements).

The Convention at Washington last month for the seventh decennial revision of the Pharmacopœia of the United States of America, was an occasion fraught with more points of interest than one. In the first place, it gave a large proportion of the delegates a much better idea of the manner in which the Pharmacopœia is revised than they ever had before. These delegates, as well as the better posted ones, will disseminate the knowledge when they return to their respective homes. The pharmaceutical and medical journals will have more to say on the subject of our National standard than they have in the past, and thus help to bring it more prominently before the individual members of the two professions. After reading and hearing so much, the students in the colleges of medicine and pharmacy will take more interest in the history of the Pharmacopœia than they usually do. All of this will have a tendency to popularize the work and increase its sale and use when the revised edition is issued.

The Pharmacopœial Convention also brought prominent members of the two professions together in a manner that they have not met since the Convention of 1880. There are always a few physicians at the meetings of the American Pharmaceutical Association, as well as a small number of pharmacists at the annual gatherings of the American Medical Association; but on such occasions they do not meet each other half-way and freely present the claims of each profession. I think that our recent convention at Washington will cause our leading pharmacists to take interest in the A. M. A., and insure the success of the newly established section on Materia Medica and Pharmacy in that organization. It will also bring the A. P. A. closer to the physicians of the country, and thus spread rays of light which will clear up some of the dark places that have bothered us in the past.

Among the noticeable features of the proceedings of the U. S. P. Convention was the large attendance at every session. As a rule, such gatherings are not as large as they should be, when the number of delegates nominally in attendance is considered. But on this occasion even the attractions of a great city of sights like Washington, could not swerve the members of the Convention from their line of duty. It certainly speaks well for the delegates.

The pharmaceutical journals of this country are now in a position to render the cause of science and common sense much service by keeping the metric system constantly before their readers. There is no doubt that the manufacturers of weights and measures will be alive to their interests, and have a good supply of metric goods on hand by the time of the advent of the new Pharmacopœia. The journals can continue to point out the advantages of the system in the work of manufacturing.

Even if the adoption of the metric system in the Pharmacopæia does not affect the physicians in their prescribing, they can still show their readiness to advance by writing prescriptions in that system, and thus oblige even the lazy and slow druggists to learn it. I wonder how many of the physicians in the Convention who talked in favor of the system and voted for it, also use it in prescriptions? Unless they do, they have but little excuse for urging it upon the druggists. Again, how many medical teachers use the system in their lectures?

CHEMISTRY.

CHILI SALTPETRE.*

The chief deposits of crude nitrate of soda are found in the provinces of Tarapacá and Antofagasta, formerly a part of Peru, but ceded to Chili in 1881 as a war indemnity. A point a few miles south of Taltal, in the latter province, in latitude 25° 45′ S., may be considered the southern limit of the nitrate belt, its northern being in latitude 19° 12′ S.; its extreme north and south length being thus shown to be 260 geographical miles. Its average width is not more than 2½ miles. This narrow strip of nitrate lands stretches along the eastern slope of the coast range of barren, verdureless mountains which wall in the Pacific Ocean, from the northern limit of Peru to the Straits of Magellan, upon which, for more than 2,000 miles, not a drop of rain ever falls, and upon which there is not a tree, shrub, or any living vegetation. Some of its peaks reach an altitude of 4,000 or 5,000 feet above the sea-level, but the usual height of the range is about 2,000. The average distance from the coast to the nitrate beds is about 14 miles, but many of them are not more than ten.

---

* Fr m a Report by U. S. Consul-General Walker, of Bogota, on the "Nitrate Trade of Chili."

The possibility of so strange a fact as the existence in open air of enormous deposits of a salt so deliquescent and easily destroyed by moisture as the nitrate of soda, is partially accounted for by the strange meteorological fact that where they are found it never rains. This rainless region extends from the northern part of Peru, in about south latitude 4°, to about latitude 30° S., and inland from the shores of the Pacific to the main cordillera of the Andes, an average distance of about 90 miles. The country within these limits is a perfect desert, except along borders of the few streams which, rising in the snow mountains, force their way into and across the desert to the Pacific, furnishing along their course water for irrigation,—such as the river Rimac which runs through the center of the city of Lima and irrigates the broad fruitful valley lying between that city and the sea-coast.

I have already explained that the nitrate beds are found on the eastern slope of the coast range which, often precipitous on its western face, on its eastern, slopes gently down to the valley of Tamagruel, which separates the coast range from the main cordillera of the Andes. This valley, with an average width of 10 miles, stretches from the hills of Caricoles, which connect the two Andean ranges, in latitude 22° 40′ S., to Aguas Blancas, in latitude 25° 45′, south of which point the country becomes very broken and the nitrate deposits disappear.

This valley is wholly devoid of all characteristics which we usually associate with the word, such as groves of green trees, verdant pastures, running streams, etc. Instead, the eye wanders over a scene of treeless, verdureless, waterless desolation. It is true, on the eastern side of the valley there is found an occasional weak spring where feeble attempts at cultivation have been made, but with indifferent success, as the soil is so thoroughly impregnated with salts of various kinds as to render its profitable cultivation impossible even with water for irrigation.

The point on the slope of the mountain where the deposits of "caliche" are found, is some five or six hundred feet higher than the valley, but it diminishes in quantity and richness as the valley is approached, and disappears entirely at the bottom.

An examination of the workings of these beds discloses the following conditions:

(1) That the surface, to the depth of eight or ten inches, is covered with a layer of fine loose sand.

(2) That underneath the sand is found a conglomerate of amorphous porphyry, feldspar, chloride of sodium, magnesia, gypsum, etc., cemented by the sulphate of lime into a hard, compact mass to a depth of six to ten feet, called the "costra," or crust.

(3) That below this crust, the caliche, or impure nitrate, is found, presenting to the view a variety of colors—yellowish white, orange, bluish-gray, etc.

The nitrate deposit being reached, which, like the crust, is found cemented into a rock-like mass of from four to six feet deep, is quarried by blasting with a coarse-grained powder, of which as much as 150 pounds are sometimes used at a single blast. Neither dynamite or nitro-glycerin is used, as they would shatter and pulverize the caliche so as to occasion a serious loss.

After being brought to the surface, the caliche is carefully assorted by experts called *particulares*, broken into pieces double the size of an orange, and carted to the refinery establishment situated on the pampas or on the sea-coast, or carried to Iquique, Pisagua, Patillos, and Antofagasta, by rail, each of these places having connection by narrow-gauge railway with the nitrate deposits, and which, consequently, are rapidly becoming the chief centers of nitrate production and export. Of course, if water and fuel were obtainable near the deposits, it would be more economical to carry on the process of elaboration there; but as these essentials can be had more conveniently at the sea-coast, it would seem to be cheaper to bring the caliche to the fuel and water. The fuel used is bituminous coal, brought by sea mostly from the coal beds of Southern Chili, while the water is obtained chiefly by condensation, and for domestic purposes is brought in boats from Arica and other points on the northern sea-coast. Some attempts have been made to obtain water by sinking surface wells, but, as it never rains in these regions, success was, of course, impossible. No efforts, so far as I know, have been made to obtain artesian water, but the fact that the snow mountains are comparatively near seems to indicate that an abundant supply might be obtained at no great depth.

The conversion of impure caliche into commercial nitrate of soda, is effected by means of lixiviation or leaching. For this purpose elaborate and expensive machinery is employed, a detailed description of which would be out of place in this report. It will suffice to say that the caliche is dissolved in water at a high temperature in long tanks, from which the solution is carried in pipes to enormous shallow pans, and the water evaporated by artificial heat, the vapor being conveyed to a condenser, and the water thus distilled saved for further use.

It is found that in every 100 kilogrammes of impure nitrate there are 50 grains of iodine, and that in the crystallization of the nitrate, the water used, called technically "agua vieja," holds it in solution. In order to extract it, this old water is drawn off into a separate tank and charged with sulphate of soda, with (according to Malhohére) the following chemical reaction: $IO_5 N_2 O + (N_2O_{28}O_2) = N_2I + 3 (N_2 O + SO_3) + SO_3$, forming the iodide of sodium, precipitating the iodine, which, containing more or less impurities, is refined by sublimation and condensation.*

The importance of the nitrate trade will be seen from the following figures: The export of nitrate of soda from the ports of Taltal, Antofagasta, Iquique, Pisagua, and Topilla (Iquique furnishing two-thirds of the whole), for the ten years ending the 31st of December, 1888, was 4,574,440 English tons, valued at $231,411,182, upon which export duties were collected at the rate of $1 per 100 kilogrammes, to the amount of $87,470,622. During the same period the exports of iodine amounted to 1,588,074 kilogrammes, with a total value of $19,333,757, upon which the Government collected in export duties $1,172,576.

The export duties on nitrate for the year 1888 amounted to $17,447,882.12, and it is estimated by the Minister of the Treasury that for the current year (1889) the amount will exceed $19,000,000.

Of the large export of Chilian nitrate during the year 1888, Germany took 284,000, Holland 33,400, Belgium 84,800, France 156,500, and Great Britian 104,800 tons. The price in the English market varies from £9.10 to £10 per ton.

The chief use to which it is applied in European countries is as a fertilizer; in Germany and France, largely in the cultivation of the sugar-beet. Very considerable quantities, however—as much as 30 per cent. of the whole, perhaps—are consumed in the manufacture of nitric and sulphuric acid, nitro-glycerin, dynamite, gunpowder, etc. In the preparation of the last-named article, the soda nitrate is first converted into the nitrate of potash, on account of the latter being less absorbent of atmospheric moisture.

BOTANY AND MATERIA MEDICA.

MONTHLY REVIEWS.

The *Medical Abstract* publishes a paper, reprinted in the *Pittsburgh Medical Review*, page 169, of an address by Victor Meyer, at Heidelberg, alluding to the possibility of the utilization of wood as an article of food. The conversion of cellulose into an edible form of carbo-hydrate, combined with "the enforced increase of albumen in plants," he says, "would signify the abolition of the bread question." Although we are not disposed to believe that the immediate prospect of such a consummation is sufficiently favorable to cause a decline in the value of the present wheat crop, yet the first of the two conditions mentioned does seem to be well within the bounds of probable discovery. Indeed we are reminded by this discussion of an experiment by Schiebler, the results of which are stated as follows: "If wood be reduced to the state of fine sawdust, and be then boiled in water to separate everything soluble, afterwards dried by gentle heat, then heated several times in a baker's oven, it will become hard and crisp and may be ground in the mill into fine meal. The powder thus obtained is slightly yellow in color, but has a taste and smell similar to the flour of wheat; it ferments when made into paste with yeast or leaven, and when baked gives a light, homogeneous bread. Boiled with water, it yields a stiff, tremulous jelly like that from starch." "It thus appears," says E. W. Stewart, in his *Feeding Animals*, "that by the agency of heat, woody fibre may be changed into starch."

Some very practical contributions have recently been made to the important question of the advisability of using atropine in opium poisoning, and are presented in a translation from C. Binz, printed in the *Pittsburgh Medical Review*, page 154. Two instances are given in which the patient, already in a desperate condition, was completely restored to health by the administration of heroic doses of atropine. In one case the patient received within an hour 20 times the maximal dose of atropine, and in the other 45 times the maximal dose. In the latter case the respirations had become reduced to three per minute, the pulse at the wrist was not discernable, the heart sounds were extremely feeble, cyanosis was deep, and life was about to become extinct, when $\frac{1}{12}$ of a grain of atropine was injected hypodermatically. The improvement was immediate, and complete recovery took place in the course of 24 hours. This evidence is sufficiently direct, and so far as it goes, sufficiently conclusive to at least warrant practitioners in resorting to this method. It would appear that the only hope of success lies in pushing the administration to an extreme point. The value of the contribution is not limited by its application to morphine poisoning. It has a direct bearing upon the general question as to whether the administration of physiological antidotes in general, does or does not tend to increase the dangerous symptoms. No better illustration of the question is to be found than in the case here cited, where atropine, a direct and powerful excito-motor, is opposed to the motor paralysis resulting from the action of morphine.

---

* There is something radically wrong with the equation and history of the reaction as printed in the report, hence it was submitted to our friend Dr. Adolf Zimmermann who writes:

"The author apparently does not at all understand the reaction taking place here. Since no free iodine can exist in the presence of nitrates, whatever free iodine was originally present in the caliche has, aided by the atmospheric oxygen, converted some of the nitrates into iodates in the following manner: $2NaNO_3 + I_2 + H_2O + O_5 = 2NaIO_3 + 2HNO_3$, the nitric acid combining with carbonates or chlorides originally present. The mother liquor therefore does not contain iodine in solution as such, but only in the form of iodate. To this, *sulphite* of soda is added, setting free sulphurous acid. The following equation indicates the reaction which takes place: $5H_2SO_3 + 2NaIO_3 = Na_2SO_4 + 4H_2SO_4 + H_2O + I_2$."—Ed.

In a paper by Thomas J. Mays, in the *Boston Medical and Surgical Journal*, we find a strong recommendation for the use of the combination of two of the most powerful excito-motors, namely, strychnine and atropine, in the treatment of asthma.

Mr. G. Lemoine, in *L'Union Médicale*, is quoted by the *Journal of the American Medical Association* to the effect that the diuretic properties of *Sambucus nigra*, the European Elder, are restricted to the soft white bark next to the wood (liber), and that it is entirely useless if not perfectly fresh. The directions for preparation are somewhat indefinite, as we are informed that a handful of the bark should be boiled in a litre of water, the dose being from a litre to a litre and a half per diem. Thus used, the writer found it of great efficacy.

The treatment of sea-sickness by the gum of *Eucalyptus rostrata* (red gum) forms the subject of a contribution by Dr. W. M. Russell to the *British Medical Journal*. The editor of this column, who has been an unusually severe sufferer from this malady, has somewhat lost faith in the efficiency of any remedy as applied in treatment. Sea-sickness, like the vomiting of pregnancy, is so uncertain as to its continuance, and as to its response to treatment, that one never feels like declaring that a favorable termination is really due to the treatment, and not to the fickleness of the disorder. If the *Eucalyptus rostrata* really possesses this power, then we should be able to discover something specific in its composition as distinguished from the other species of Eucalyptus, and this, as opening the door to probable usefulness in other directions, appears to be the chief value of the suggestion under discussion.

The several recent contributions upon the diverse therapeutic properties of balsam of Peru, have resulted in directing the attention of numerous able investigators to this subject, which is at present receiving an unusual degree of attention. It is to be hoped that we shall shortly arrive at something positive concerning the value of the drug, which we are inclined to regard as greatly over-rated. According to the *Provincial Medical Journal*, Drs. Brautigam and Nowack have arrived at the conclusion that it has no disposition to cause gastric disorders as has been charged against it.

With all our knowledge, and much of it ancient, concerning the therapeutic action of camphor, very little has been contributed upon that of camphoric acid. The editor of the *Philadelphia Medical and Surgical Reporter* presents a contribution on this subject, on page 559, giving the results of numerous recent investigations. Its chief property appears to be antiseptic, and its important application to nasal and pharyngeal catarrh. It has, moreover, an important action in checking the night sweats of phthisis.

The editor of the *Pittsburgh Medical Review*, page 159, takes occasion to properly condemn the position of Dr. Squibb, when the latter says, that, "with few exceptions, the crude drugs can always be bought by Pharmacopœial descriptions and tests of such quality as to yield preparations of practically uniform therapeutic value." We are heartily in accord with the position taken by the *Review* on this subject. We will venture the assertion that Dr. Squibb himself is capable of being totally misled by the most thorough possible physical examination of crude drugs upon some occasions. But if this were not true, it would be no argument for pharmacists in general. There is probably no man in America whose experience has been so great, and whose ability is so exceptional in the physical determination of drugs as that of Dr. Squibb. But the practical point is, that at least 75 per cent. of our pharmacists are entirely devoid of an experience sufficient to enable them to reach even tolerably accurate results from the physical examination of crude drugs. We believe that it is entirely within the bounds of moderation to say that it would cause a novice 20 times the amount of hard labor to become able to judge of the value of a given drug from its physical appearance, than it would for him to learn how to do so by chemical assay, where such process is applicable. While the difficulties of acquiring a facility in pharmaceutical assaying may be admitted, the fact must not be lost sight of that the difficulties in the way of becoming able to judge accurately from a physical examination of these drugs in the several forms in which they reach us, are infinitely greater; and with all this, the ultimate results, it must be borne in mind, are, when secured, less certain.

"Abrus-poisoning" is the title of an interesting discussion in the *Indian Medical Gazette* for November, reprinted in the *Therapeutic Gazette* for April, page 282.

HOMŒOPATHIC PHARMACOLOGY.—We read in a description of some of the remarkable animal preparations found in a homœopathic pharmacy: "Pediculus. Three kinds are for sale, namely, head lice, body lice, and pubic lice." Probably these are remedies for itching under the "law" of *similia*.

Nut-Cracking Department.

Explosive Prescription.

R. B., Fowler, Ind.—It is a common practice with many dispensing pharmacists, while compounding ordinary prescriptions, to dump soluble salts into a prescription bottle of appropriate size, pour upon them the solvent prescribed, insert the cork tightly, and shake the bottle vigorously until solution is effected.

Treated in this manner, the following prescription which you submit, is likely to cause explosion, inasmuch as "sweet spirit of nitre" is frequently found in commerce containing sufficient free acid to cause effervescence with a solution of sodium bicarbonate, and we have observed that some commercial brands of glycerin often have a strong acid reaction:

℞	Spirit of nitrous ether	f℥j.
	Glycerin	f℥j.
	Sodium bicarbonate	ʒj.
	Water	f℥ij.

M.

If the prescription is mixed in a mortar and allowed to stand for a few minutes until effervescence has ceased, then transferred to a bottle, we believe no trouble will be experienced.

Chemical Name for Natural Gas.

J. M., DuBois, Pa.—Natural gas is a variable mixture of several hydro-carbons, hydrogen, nitrogen and oxygen gases, and therefore has no chemical name. An examination of six samples of gas taken from wells near Pittsburg, Pa., and reported in *Jour. of the Society of Chem. Industry*, 1885, page 452 (abs. from *Journ. Iron. and Steel Institute*, 1885), gives the following percentages of gaseous constituents:

Mithane, CH_4 49.58—75.16, Ethane, C_2H_6 3.6—12.3, Ethylene or olefiant gas, C_2H_4 0.6—0.98, Hydrogen, 9.64—35.92, Nitrogen, 2.89—23.4, Oxygen, 0.78—2.10, Carbon mon-oxide, CO 0.40—1.00, Carbon di-oxide, CO_2 0.30—0.80.

"*Tincture Opii Camph.*" *and* "*Tincture Opii Comp.*"

M. W. P., Van Buren, Ark.—Something over ten years ago Dr. Squibb introduced, under the name "Tincture Opium Compound or Diarrhœa Mixture," a compound prepared as follows:

Tincture of opium	1 fluidounce.
Tincture of capsicum	1 "
Spirit of camphor	1 "
Purified chloroform	180 minims.
Alcohol enough to make	5 fluidounces.

Since that time the term "Tincture Opium Compound" has been reserved for, and commercially applied to this mixture, which has been recognized in the National Formulary under the name of Squibb's Diarrhœa Mixture.

On page 1037 of Remington's Pharmacy, the formula also appears under the following title: "Compound Tincture of Opium" ("Squibb's Diarrhœa Mixture.")

"Tincture Opii Camph." indicates the well-known camphorated tincture of opium called in the vernacular "Paregoric."

The term "Tincture Opium Compound" does not appear in the Pharmacopœia or Dispensatories as a synonym for paregoric, but the British Pharmacopœia assigns to a similar preparation the name "Compound Tincture of Camphor."

We are unable to state upon what authority "Compound Tincture of Opium" is given as a synonym for the Camphorated Tincture Opium in the Companion to the U. S. Pharmacopœia, but are inclined to believe that it is a misprint, and that Compound Tincture Camphor was intended.

Tree of Life.

L. C. B.—This is not recorded as a name in any of the botanical indices of vernacular names, therefore we are little inclined to doubt that *Arbor Vitæ* is what our correspondent has had called for—Tree of Life being its equivalent in English. Arbor Vitæ is, moreover, a quite common article in drug stores, and the chances of some one asking for it in this way are far from remote.

Boric Acid and Sodium Borate.

S. D. S.—Information bearing on the subject you present can be found under the above titles in the United States or National Dispensatories.

The substances, which are, of course, not identical, can be briefly described as follows:

Boracic, or more properly *Boric* acid, has a chemical formula H_3BO_3. It crystallizes in white, translucent, six-sided scales, which have a slight pearly lustre, and are somewhat fatty to the touch.

"Borax," or sodium borate, has a chemical formula $Na_2B_4O_7.10H_2O$. It forms in large, colorless, monoclinic prisms, which are transparent, inodorous, and in dry air effloresce superficially and become opaque.

Waterproof Gelatin.

P. H. U.—The addition of about 2 per cent. of a concentrated solution of potassium bichromate to a heavy solution of gelatin, just before applying to the broken article, is said to render the gelatin waterproof after exposure to sunlight. If you will furnish us with more definite information as to what you wish to accomplish, we will be pleased to experiment with it in view.

Notes on Pepsin.

Pepsin has never been isolated in an absolutely pure condition. As met with in commerce, it is always contaminated in a greater or less degree with inert substances, from which it is separated with difficulty. Proteolytic power would seem, therefore, to be a true indication of the proportion of pure ferment in the various commercial brands.

SUMMARY OF PEPSIN EXAMINATIONS.

NAMES OF BRANDS.	PHYSICAL PROPERTIES.	CLAIMS, ETC., ON LABEL.	ACTUAL (COMPARATIVE) DISSOLVING POWER.	QUOTED PRICE PER OZ.	ACTUAL VALUE (COMPARATIVE) PER OZ.
Pepsinum Purum in Lamellis et Pulvis. Parke, Davis & Co.	Soluble, semi-transparent scales, no disagreeable odor.	2,000	2,000	$1.25	$1.25
Fairchild's Pepsin, in scales Fairchild Bros. & Foster.	Opaque, amber scales, putrefactive odor, comparatively insoluble.	1,000 in 4 hours.	1,200	$1.25	$0.75
Jensen's Cryst. Pepsin. Carl L. Jensen.	Yellow scales, putrefactive odor, hygroscopic.	700 to 1,000 in a few hours.	1,000	$1.50	$0.63
Ford's Pepsin. Gaunt & Janvier, Agents.	Gray powder, comparatively insoluble and odorless.	1,000 to 1 450 in 4 to 6 hours.	750	$0.75	$0.47
Golden Scale Pepsin. Gaunt & Janvier, Agents.	Amber scales, no disagreeable odor, soluble, hygroscopic.	None on activity.	250	$0.50	$0.16
Pure Pepsin (in scales). Royal Chem. Co.	Almost colorless scales, soluble.	None on activity.	200	$1.00	$0.13
German Pepsin. E. Merck.	Pinkish powder, odor suggestive of lactated pepsin, soluble.	None on activity.	200	$0.25	$0.13
Pure Pepsin, Royal. Royal Chem. Co.	Grayish powder, odor suggestive of lactated pepsin, soluble.	250 to 450, raw beef (fibrin) in 6 hours.	200	$1.00	$0.13
German Scale Pepsin. (*Pep. Purum in Lamellis.*) Lehn & Fink, Sole Importers	Yellow scales, odorless, soluble.	535 to 600.	50	$0.45	$0.03
Pure Pepsin (Pepsina Porci). Beeman Chem. Co.	Gray, insoluble, permanent, and almost odorless powder.	From 20 to 40 times the strength of the saccharated preparations, 1 grain to dissolve 500 grains albumen.	650	$0.65	$0.40
Pepsinum Purum. Henry Biroth.	Gray, insoluble, permanent, and almost odorless powder.	None on activity.	250	$1.25	$0.16
American Pulverized Pepsin (saccharated). J. S. Hawley, M. D.	A white, largely soluble, permanent and almost odorless powder.	None on activity.	200	$0 35	$0.13
Morson's Pepsina Porci. J. Morson & Son, London.	A light yellow powder, largely soluble, putrefactive odor and a pleasant taste.	None on activity.	200	$2.75	$0.13
Morson's Medicinal Pepsin. or Digestive Powder J. Morson & Son, London.	A light yellow powder, largely soluble, putrefactive odor and not unpleasant tasting.	None on activity.	15	$1.25	$0 01
Boudault's Pepsin. PHcie., C. Callus.	A light colored, largely soluble powder, and palatable.	....	350	$0.75	$0.18

Pepsin should never be prescribed in conjunction with alkaline substances, such, for example, as bicarbonate of sodium. After pepsin solution is once rendered alkaline, addition of hydrochloric acid fails to restore its activity. Its peptic power seems to be irretrievably lost.

When pepsin is to be combined with bismuth, we prefer to employ a mixture, in powder form, of pure pepsin and bismuth subnitrate, thus avoiding danger from alkalinity in forming solutions with the ammoniated citrate of bismuth.

Soluble pepsin is best adapted for general use. It is never safe to use insoluble products in the manufacture of solutions or elixirs, for, unless the liquid is finally tested, there is no assurance that the digestive ferment has entered into the solution.

Pepsin should never be dissolved in boiling water. Any temperature above 160° F. is dangerous or destructive to its potency. Cold water will almost invariably serve, but one should always be able to bear his hand in any warm water that is used.

A good quality of pure pepsin should not deteriorate with reasonable age. That such deterioration does take place in many commercial brands, however, is unquestionably true.

When pepsin solution is filtered through talc or asbestos, such substances should be previously freed from iron or alkaline impurities by washing with hydrochloric acid water, as these contaminations are sure to impair or destroy the ferment.

Pepsin has until recently been administered in doses altogether too small. The dose should, of course, be based upon the digestive power of the pepsin employed, and a quantity used in proportion to the amount of work to be accomplished.

A definite relation exists between the quantity of ferment used and the amount of food digested. While the assertion has often been made that a small quantity of pepsin may digest an almost unlimited amount of albumen, it is rarely possible to find or provoke the necessary conditions in a morbid or diseased stomach, for the absorbent or dialytic powers of the various parts of the alimentary canal may themselves be lessened by abnormal conditions, just as other organs of the body refuse to perform their functions, as, for instance, the skin in fevers. It follows from this that a sufficiently large dose must be given, especially to adults, and no unwarranted expectations should be indulged in as to a mysterious or wonderful catalytic effect from a minute quantity of pepsin upon unreasonable amounts of food, especially if improperly prepared.

Obviously, the results to be derived from the administration of pepsin are entirely dependent upon its ability to digest proteids, and it is to be hoped that the forthcoming Pharmacopœia will revise its now absurdly low standards, and in this way crowd out of the market the many inferior products whose existence is justified only by the fact that they conform to official standards.

The absurdity of prescribing a certain dose of pepsin without specifying the brand or digestive power, is clearly shown by a comparison of the commercial products exhibited in the appended table.

Fifty years ago the isolation of pepsin was first attempted. Forty years after this, Scheffer's pepsin, capable of digesting twelve times its weight of coagulated albumen, was commonly used. Ten years ago the U. S. Pharmacopœia adopted a standard requiring that one part of saccharated pepsin should digest fifty parts of albumen. Manufacturers now place pepsin capable of digestion 2,000 times its own weight of albumen in the hands of physicians, who are not slow to recognize its value when administered in proper form and quantity.

When pepsin is prescribed in aqueous solution, hydrochloric acid can be advantageously added; being the chief acid of the gastric juice, it accelerates the action of the pepsin, contributes to the palatability of the mixture, and exerts a pronounced preservative influence. Glycerin is also a desirable addition to such solutions, and cinnamon or peppermint water are often desirable substitutes for plain water.

Examination Questions.

The following questions, selected from the papers recently used by the Massachusetts Board of Pharmacy at an examination held in Boston, may prove interesting and instructive to some of our young readers:

1. How many grains are contained in 1 ounce avoirdupois; in 1 troy ounce; in one fluidounce of water; in 3.30 grammes? How many minims in 1 c. c.?

2. How much 28-per-cent. ammonia will it take to make 1 quart officinal solution of ammonia? Define the process for preparing the above.

3. About how many grains are in 1 fluidounce of chloroform; alcohol; sulphuric acid; ether; glycerin?

4. Calomel—what impurities does it contain and how are they detected?

5. Lime-water—how is it made; what per cent. of hydrate does it contain; how should it be kept; into what officinal preparation does it enter?

6. Give common names for the following: H_2SO_4; C_2H_6O; HNO_3; $KClO_3$; $NaHCO_3$.

7. How much opium is contained in 1 drachm of Dover's powder; 1 drachm of tincture of opium; 1 fluidounce of camphorated tincture of opium; ten opium pills; 5 grains of extract of opium?

8. Name the menstruum in the following: Tinct. guaiac. am.; liq. gutta percha; tinct. kino; tinct. opii acet.; spt. camphor.

9. What are the ingredients in tinct. cinchona co.; elixir vitriol; Fowler's solution; compound cathartic pills; Tully's powder?

10. Name the source of ipecac; jalap; quassia; squill; cubeb; camphor; guarana; opium; mandrake; rhubarb.

11. Starch—give officinal name; in what soluble; into what preparation does it enter; from what prepared; it is an antidote for what?

12. Name three alkaloids; three alkalies; three glucosides; three balsams; and three liniments.

13. From what drugs are the following obtained: Pilocarpine; caffeine; cocaine; salicin; tannin; tartaric acid; atropine; emetine?

14. From what is pyroxylin obtained, and into what officinal preparation does it enter?

15. Give maximum dose and antidote for arsenic; corrosive sublimate; sugar of lead; argentic nitrate; phosphorus.

16. Nux vomica—give officinal name and dose. In 20 ounces 2½-per-cent. tincture how many ounces of officinal tincture?

17. A 2-ounce mixture contains 1½ grains of morphine; how much will 1 drachm contain? A 2-ounce mixture contains 3 grains of strychnine; how much will 1 drachm contain?

18. Define the following terms and give examples of the use of each: Diuretic; anthelmintic; rubefacient; expectorant.

In addition to the foregoing written questions the Board required an oral examination of some length, and the identification of specimens.

"CHESTNUTS."

"Things are seldom what they seem."

"There is no use in crying over spilled milk. It may be three parts water."

"An indiscreet man is like an unsealed letter—every one can read it.

"When you have chosen the proper way,
And the proper thing to do,
There's sure to be some fool to say:
'I wouldn't if I were you.'"

"'Whatever you do, my boy, begin at the bottom and work up, unless you are going to dig a well."

"The husband's the head of the household, he'll see
Who closely the question peruses,
And the wife is the neck, who, between you and me,
Twists the head around just as she chooses."

"Never chew a raw oyster. Simply place him in the mouth, look at the ceiling, and trust the oyster for the rest; same with a moistened elastic capsule."

"Anger is the most impotent passion that accompanies the mind of man; it effects nothing it goes about, and hurts the man who is possessed by it more than any others against whom it is directed."

"There are a million men in this country who daily enter a cigar store and ask: 'Have you a good cigar?' And not one of them has ever found a tobacconist who replied in the negative."

"People are yet laughing at a doctor in a little village in this State, who, in filling out a certificate of death, inadvertently wrote his name in the blank space reserved for 'cause of death.'"

"A man must get right down to his work in order to get up in the world."

"De man whut has de mos' fren's is de man whut uses 'em de least. De only way ter hab er nice coat foh Sunday is not ter w'ar it mo'n once a week."

Taste is often a good criterion by which to judge the solubility or insolubility of a substance. Insoluble substances are usually tasteless, while soluble substances are readily distinguished by taste when touched to the tongue. Look out for poisons.

Attention has been drawn to the case of a druggist who offered to sell a $1.25 preparation at 75 cents a bottle, and when customers asked for it they were told that it had all been sold, but they could buy just as good a preparation made by the enterprising druggist himself. Though as a matter of fact the druggist in this case sold little or none of the preparation at the advertised price, his advertisement caused no small depression in the price throughout the neighborhood.

HOW THANKFUL WE SHOULD BE.

"If tongues were all attached to brains
How thankful we should be!
If "hogs" were barred from railway trains,
How thankful we should be!
If fads and foibles were tabooed,
If gum was not by ladies chewed,
If Death would kindly steal the dude,
How thankful we should be!

If cats would only sleep at night,
How thankful we should be!
If money would not get so tight,
How thankful we should be!
If women would not talk, forsooth,
If ladies' hats were less uncouth,
If weather clerks would tell the truth,
How thankful we should be!

If fishermen would stick to facts,
How thankful we should be!
If men would sit between the acts,
How thankful we should be!
If girls in front their hats would doff,
If folks would stop at home who cough,
If empty guns would not go off,
How thankful we should be!"

Death of Franklin H. Tinker.—Franklin H. Tinker, well known as a member of the firm of Root & Tinker, and as the managing director of the company publishing the *Oil, Paint and Drug Reporter*, died at his home in Short Hills, N. J., Wednesday morning, May 14th.

Mr. Tinker was a man of very pleasant address. His social life was as successful as his business pursuits. He was noted for his cultivated taste in matters of literature and art, and was known to his associates as a collector of rare books and other like treasures.—*Drug. Circular.*

Correspondence.

PARIS LETTER.

Methods of Administering Disagreeable Drugs—Dr. Duinquaud's Calomel Plaster—M. Bordier on Susceptibility of Animals to the Toxic Influences of Drugs—Death of the eminent Emile Genevoix, Editor and Pharmacist—Variance in Methods of Prescription Compounding—Antiseptic Dentifrices—A New Formula for Variola Pustules—Some Popular Naphthol Formulæ—Quénu's Solution for Varicose Ulcers—Jules Simon's Collutory for Diphtheria.

Many improvements have been made during the past ten years in the methods by which certain disagreeable drugs may be applied or administered. Among the most useful of these are to be found such preparations as tend to do away with the old offensive ointments and mixtures to be applied with a brush. All of these expedients were gladly received by the faculty. Iodine plasters quickly displaced iodine paint, and mercuric flannels gave the death-blow to blue ointment. And now the mercuric flannels have been superseded by Dr. Duinqnaud's calomel plaster, which is largely used already by Parisian doctors, who say that it gives admirable results in the treatment of syphilis. Duinquaud's formula is as follows: Diachylon plaster, 30 parts; calomel, 10 parts; castor oil, 3 parts. This is spread upon heavy muslin, which is then cut into pieces four inches square. The plasters are applied over the splenic region for eight days, and re-applied after an eight days' interval, the method being kept up until the condition is cured. A plaster of this size does not salivate. Plasters of double the size produce mild ptyalism and a certain amount of stomatitis after a few weeks' use. The plasters should be renewed every four days.

M. Bordier, in his recent work on comparative pathology, gives some curious facts concerning the susceptibility of animals to the toxic influences of drugs. Some of his citations are old, but many of them are new and interesting. It may not be out of place to quote some of these statements; Hyoscyamus kills the deer, rodents, birds, fish, certain kinds of monkeys, and man. It has no toxic effect on cows, goats, sheep, and horses. Thebaine is badly tolerated by dogs, even in quantities of 10 centigrammes. Rodents do not suffer from a meal of belladonna; goats are fond of tobacco, and the horse is pleasurably excited by morphine. Snails enjoy digitalis leaves, but corn-poppy poisons bovine animals. Sugar poisons frogs. Manihot root, which is poisonous for man, is eaten with impunity by swine and rodents, though it kills horses, sheep, and horned cattle. Aconite may be eaten freely by horses or goats; swine thrive on antimony; coffee kills some kinds of birds, although it seems to agree with crows and sparrows. The *Sapindus edulis* of Brazil kills turkeys, but is harmless for other fowls. Hypericum kills white sheep, but has no toxic effect on their black brethren. White swine die from eating *Lachnanthes tinctoria*, while the black variety alone succumb to *Polygonum Fagopyrum*.

Emile Genevoix one of the most distinguished members of the French pharmaceutical body, lately died at the age of 62. He was President of the *Société des Pharmaciens de la Seine*, and, later, of the *Association Générale des Pharmaciens de France*. To the interests of these bodies he devoted much time, thought and labor. He was respected and beloved by all pharmacists, and was irreproachable in all of the relations of public and private life. M. Genevoix was director of the *Pharmacie Centrale de France*, as also of its two well known organs *Le Union Pharmaceutique* and *Le Bulletin Commercial*. At his funeral, addresses were delivered by MM. Ferrand, Fumouze, Buchet, Husson and Gourdon.

At a recent meeting of the *Société de Pharmacie de Bordeaux*, M. P. Carles said that during last winter when pharmacists were called upon to prepare an unusual number of potions containing new crystalline drugs, some varied and peculiar mixtures were made. Benzoic acid was, in numberless instances, united with antipyrin, sulphonal, naphthol, salol, etc., with interesting results. Several methods of preparation were used. In some establishments the crystalline medicament was first dissolved in alcohol and diffused in syrup and water; in others the organic principle was dissolved in boiling water, the syrups being added and the potion dispensed before re-crystallization could take place; in still other pharmacies the method adopted consisted in triturating the new product with its weight of sugar or gum, and diluting it with the vehicle prescribed. Sometimes different pharmacists in the same establishment used different methods, with the consequence that patients often found it hard to believe that a renewed prescription consisted of the same substances as they received in the previous mixture. In fact, according to M. Carles, it is very doubtful if mixtures so differently manipulated were really identical, for chemical changes—some of them dangerous—must occasionally have taken place. Of the three methods of preparation described, M. Carles gives a decided preference to the one which consists in first triturating the active medicament (especially if we know little about it) with sugar or gum. By this method the crystalline processes are fully broken up, the mass is easily distributed in the vehicle, and the dangers of getting crystals on the sides of the container are avoided.

In the *Gazette Hebdomadaire*, M. P. Vigier gives some formulæ for antiseptic dentrifices which are said to have given much satisfaction:

1.—Poudre Dentifrice.

Resorcin	2 grammes.
Salol	4 "
Iris pulv	40 "
Prepared chalk	8 "
Carmine No. 40	30 centigrammes.

If thought desirable, 10 drops of essence of peppermint may be added to this, but M. Vigier thinks that the agreeable odor of the salol is quite sufficient as an aromatic, while it seems to be preferred to the odors of the essential oils.

2. Elixir Dentifrice.

Elixir dentifrice, any of the old mixtures,	100 grammes.
Resorcin	2 "
Salol	2 "

In *Médecine Moderne*, Dr. Talamon, who had become discouraged with the results of internal treatment for the pustules of variola, gives the formula of a preparation which he has found to be very satisfactory.

Corrosive sublimate	1 gramme.
Tartaric acid	1 "
Alcohol at 90°	5 c. c.
Ether, q. s. to make	50 c. c.

The mixture is sprayed lightly, for a few seconds only, upon the lesions, three or four times daily. A slight feeling of burning is felt and some redness occasioned, but the application gives excellent results. The formation of cicatrices is not absolutely prevented, but their number and depth are notably diminished. After the spray, the face may be lightly covered with a 15-per-cent. solution of sublimate in glycerin. Eruptions of the mouth and throat should be treated with borated solutions. The eyes should be protected with wads of cotton while the spray is being used.

Physicians seem to have fully adopted β—naphthol for use in various conditions of irritation of the mucous surfaces. A formula given by Dr. Ruault for rhinitis is said to be much used. It is as follows: β—naphthol, 12 grammes; alcohol at 90°, 84 grammes. A teaspoonful of this added to a quart of water is used for irrigations not only in rhinitis, but in ozena and similar conditions. The application causes a somewhat disagreeable sensation which soon passes off. The irrigation may be preceded by one of cocaine, if necessary, or the solution may be still further diluted. A formula for naphthol, which is much used for ulcerations, etc., is said to have been originated by Dr. Menière. It is as follows: β—naphthol, 1 gramme; tr. Panama wood, 19 grammes; ext. of hyoscyamus, 4 grammes; distilled water, 76 grammes; make emulsion. This is applied with the spray, undiluted, to ulcerated mucous surfaces, and is said to effect cures in from eight to ten days. Quénu's solution for varicose ulcers is very simple, being a mixture of sulphate of copper, 10 grammes, and water, 1000 grammes. The application is made with compresses of muslin, well wrung out, which are covered with Mackintosh and kept in place as long as needed. They should be removed every three days. A simple formula for an ointment said to have been successfully used in many cases of lumbar neuralgia, is as follows—no one seems to know who originated the preparation: Salicylic acid, 10 grammes; camphor pulv. (mixed with ether), 6 grammes; vaselin, 15 grammes. Inunctions with one or two drachms of this are made over the painful region, morning and night, the place being afterwards covered with flannel. In some cases it is best to use gentle and prolonged friction with the ointment. Many cases of rheumatic neuralgia (not in the lumbar region) are benefited by the treatment. Jules Simon's collutory for diphtheria is given as follows in the *Union Médicale:* Salicylic acid, 50 centigrammes; decoction of eucalyptus, 60 grammes; alcohol, 12 grammes; neutral glycerin, 30 grammes. This is used as a sort of paint, but is applied with a pencil wound with cotton, not painted on with a brush.

LONDON LETTER.

The Close of the Pharmaceutical Year—Stirring Events.

After an exceedingly dull time in the world of pharmacy, things have again put on the semblance of life for a week, and pharmacists have again given evidence of the kind of Galvanic or spasmodic energy which seems alone their characteristic. During May, pharmacy blazes up for a few days to quite unusual importance, before it finally fades out during the summer to reappear at the Conference in autumn.

The first of the annual proceedings which mark the end of the pharmaceutical year is the conversazioné. This was held on the 20th of May, this year, and was very successful; about 800 ladies and gentlemen were present. After the reception by the President and Council, the guests were free to entertain themselves with the instrumental or vocal music provided, or to view the various exhibits. Among the latter the first place ought to be assigned to the botanical specimens arranged by the Curator of the Society's Museum, Mr. E. M. Holmes; these included a number of living plants and fresh specimens, many of which were taken from Mr. Holmes' own garden. Down the centre of the long table which stands in the Museum (generally covered with drawers of drugs and mounted herbarium specimens for the students) were arranged a number of glass jars containing green specimens of *Hyoscyamus niger*, *Atropa belladonna*, *Anenome pulsatilla*, *Mentha arvenis*, *Mentha piperita*, etc., grown by himself. The most interesting of the home products, however, were *Aconitum napellus*, *A. paniculatum*, and *Scopola carniolica*, var. *Itladinikiana*. The monk's hood was in full flower, and the whole plant quite three feet high. The second species does not flower until July, but is distinguished from *A. napellus* when young by having rigid leaves which do not form a tuft drooping at the ends. When flowering, the leaves of the two plants can scarcely be distinguished, but the flower of *A. paniculatum* has a narrower, deeper, and less semicircular hood, and the inflorescence is markedly paniculate. The species of *Scopola*, also known as the Mandragora, has attracted considerable attention recently as a source of atropine; it has been the subject of exhaustive researches both in this country and on the Continent.

Also among the living plants was a tree of *Erythroxylon coca* in blossom, from the Royal Botanical Gardens in Regents' Park, and a number of caffeine-containing plants, such as *Thea sinensis*, *Cola acuminata*, etc, while near by were plants whose leaves were used to give tea special aromas. Most interesting in this class of plants was a specimen of Maté (*Ilex Paraguayensis*), and of the small spherical wooden bowl and metal spoon from which the beverage is drank.

Here also was *Catha edulis*, the source of "Khat," or "Kat," which has been the subject of repeated investigations by Profs. Schorlemmer and Fluckiger, Dr. Paul, etc. The object of the researches was, of course, to determine whether the drug contained caffeine; the result, it will be remembered, was to establish the negative.

Among the herbarium specimens, a number of cinchonas were conspicuous, illustrating the differences between the flowers and leaves of the different species, and a collection of various umbelliferæ including *Ferula narthex*, the source of assafœtida.

To the antiquarian, and especially the Egyptologist, nothing could have been more attractive than the collection of drugs, and the papyri relating to medicine, loaned by Mr. Percy Newberry. These were obtained mostly by himself during prolonged work in central Egypt among the tombs. The ancient books were three to four thousand years old, written in black and red ink in cursive hieroglyphics.

In another section Mr. Holmes had an exhibition of various arrow poisons, particularly of Strophanthus; of the latter plant there were fresh specimens grown in the Botanic Gardens at Edinburgh, and an entire tree. From British Guiana comes the Antiar poison, from *Antiaris toxicaria*, which was shown in part at least as a mounted specimen.

The other annual functions were the general meeting, including the election of 14 new members for the Executive (which consists of 21 councillors) and the dinner. The former was of more than usual dimensions, about 150 members and associates in business turning up. The annual report of the Council was presented, taken as read, and discussed in the usual lengthy manner. Although there was some amount of adverse criticism, yet on the whole the meeting was quiet. After all, the election was the most thrilling incident; there were an unusual number of votes (some 800 more than last year) and the scrutineers, instead of being ready with the result as intended at 4 P. M., were only through by 7:30. The result was most surprising to the majority in that the President, Mr. Michael Carteighe, was not only re-elected (which many regarded as doubtful) but came out at the head of the poll, 200 votes to the good! This is the more remarkable as last year he only just escaped rejection. As a matter of fact there is no man better fitted for the post, in the ranks of pharmacy, and although among a certain class of chemists his policy and that of the Council has not found favor as being too educational and not sufficiently legislative, yet there can be little doubt that the grumblers clamor largely for sheer impossibilities. At the same time the Executive have certainly paid more attention to trade interests during the last year.

The dinner had no special feature about it; there were a good number of guests who in exchange for guinea tickets had a fairly satisfactory repast. As usual there were several representatives of the learned societies, particularly of medicine, such as Dr. R. Quain, Sir Dyce Duckworth, the President of the Pathological and Harveian Societies, etc. After the more material part of the proceedings there were the usual speeches interspersed with music, and songs. Altogether the pharmaceutical year has ended well, and augurs well for the activity of the next, which begins in October.

PHARMACEUTICAL NEWS FROM GERMANY.

The Growth of University Education—Further Reports on Orexin Hydrochloride—Japanese Vegetable Paper as a Substitute for Wafers, etc—Aniline Colors as Antiseptics—Sulphominol, Another Antiseptic.

According to the official statistics, the number of students in the Universities and technical high schools of this country has almost doubled during the last twenty years. In 1869 the students amounted to 17,631, and the population to 40,492,000, so that one student was yielded by every 2,297 persons; in 1888, on the other hand, with a population of 48,056,000 the students had increased to 34,118 so that out of every 1,409 persons one was a student. Concurrently with the increase of attendance at the Universities is, of course, the expenses of the Government in maintaining them. The increase in cost even outruns the augmentation of students in that the annual subsidity increased in the same period 144·58 per cent., *i. e.*, from £162,000 in 1868 to £400,000 in 1888–89. As in the first-named year there were 7,284 students (in the Universities), the average cost of the education of each was roundly £22 a year, while in 1888–89 this sum had increased to £27, and as recently every student remains in the University on an average for 9½ semesters, the average cost of the public education of a student amounts to over £130. The Institutes have been most resorted to, and the increase here amounts to 216.03 per cent. On the whole, during the 21 years under review, £1,715,487, or on average £81,690 yearly, has been expended in this special manner on the part of the State.

Your readers will remember that in the March letter a description was given of the nature and properties, physical, chemical and therapeutical, of Orexin, or phenyl-dimethyl-chinazolin hydrochloride, first recommended as a true stomachic by Prof. Penzoldt. This author's results have attracted the attention of other medical men, who have also made trial of the chemical virtues of the compound. One of these is Dr. Imredy, who tried it in about a dozen cases; he observed satisfactory results in 7 cases, but also in his hands the remedy caused gastric irritation and vomiting. Dr. Glückziegel was more successful, as out of 17 cases of anorexia due to different causes, the appetite was restored to the normal in 7, improved in 4, and remarkably increased in 3. The plan of administration advised by Penzoldt, viz. as gelatin-coated pills, proves to be very satisfactory, in preventing irritation of the mouth and œsophagus, but another mode of coating, namely, with chocolate, has also been found effective and agreeable.

Speaking of means of administering chemicals and powders, it is interesting to note a suggestion of Dr. Hoffmann that Japanese vegetable paper should be used as a substitute for wafers and gelatin capsules.

This paper is manufactured on a large scale in Japan, under the name "Usego;" it is yellowish-white in color, and has a silky lustre. On the one hand, it is so thin that the finest writing can be read through it, and on the other hand, it possesses an astonishing toughness, *i. e.*, is only torn with difficulty. Microscopically examined, it is seen to consist of bast fibre, the threads, which form an irregular net-work, being exceedingly thin-walled. By comparison with other papers, Dr. Uloth was able to identify it as derived from the shrub *Wickstrœmia canescens*, which grows in the mountain forests of Middle and South Japan. This plant is related to the Mezereons of Europe, and belongs to the same natural order.

The method of using the paper is simple enough; the powder is arranged in a little heap in the centre of a square piece, the four corners of which are screwed together after the fashion of the familiar detonating balls ("bangers" or "torpedoes") of the school boy. The surplus paper which is screwed up, is then cut off with a pair of scissors close to the powder, leaving only enough of the twisted column to maintain the packet closed; this is then gently pressed together, and the powder is ready for taking. Placed on the tongue, it is swallowed with a little water. On arriving in the stomach the packet immediately opens, the powder is discharged and so absorbed, this being proved by experiment, and physiologically. The tiny piece of paper (weighing about one-sixth grain) is, so far as can be ascertained, entirely disintegrated in its passage through the digestive tract. The great advantages of the paper is, that it is easily used, is cheap, and entirely digested.*

Within the last few weeks two new antiseptics have been introduced which differ from those previously recommended in being primarily anilin colors. These are called by the introducer, E. Merck, blue and yellow *Pyoctanin* (from the Greek, meaning "pus" and to "kill"), and they are believed to be not only free from irritating, but possessed also of healing properties. Pyoctanin is quite non-poisonous and odorless. An apparent disadvantage lies in the strong coloring action of the compound, but this it seems is not without its value in clearly showing where the remedy has been applied. Spots are readily removed by soap spirit. The yellow pyoctanin is chiefly designed for ophthalmic purposes, the blue for general surgery.

Another new antiseptic is *Sulphaminol*, or thioxydiphenylamin, a bright-yellow powder without odor or taste, and insoluble in water; it is taken up by alcohol, by glacial acetic acid, by alkaline carbonate, and freely by alkalies. When heated, sulphaminol melts at 155° C. In contact with animal juices, it splits up into phenol and sulphur. The researches of Prof. Kobert show that the compound would be innocuous. No detailed clinical experiences are yet to hand, though in one trial experiment it seems to have shown marked deodorizing power.

NEW YORK LETTER.

June 5th, 1890.

The agitation of the tariff question at Washington causes so much doubt as to the future in the minds of buyers, that purchases during the past month have been confined as nearly as possible to actual wants. The bill now pending covers very broad ground and proposes very many important changes, and until it is known what the future is to be, one can hardly expect any important improvement in trade. During the past month, there have been representatives from many well known out-of-town houses, in New York, but the burden of conversation has been the tariff bill, in many cases quite to the exclusion of the more important feature, purchase. On the part of visitors from Chicago, however, there is one other feature generally introduced, which is "The World's Fair." The feeling of elation that is now so general in the minds of these Chicago men, can well be excused, as they are not accustomed to the prominence given their city. One of these days, we hope, they will be used to it, when the occurrence of a "fair" will create no more ripple upon the general current of affairs, than such would in the metropolitan city of New York. However, as this letter is supposed to be a trade report, I will confine the balance of my remarks to trade items.

The most marked feature by way of decline has been in:

Quinine.—This article has again reached as low, if not a lower point than has ever been known before.

---

* Certain forms of tissue paper answer equally as well, and have been used in the same way by us for twenty years.—Ed.

There is a greater abundance of quinine of German manufacture upon our market, and as it is not confined to first hands, but a great deal held by speculators,—and furthermore as the demand for consumption is exceedingly limited,—there is an anxiety to sell shown by holders that has had an effect to depress the market to its present figures. From abroad, there are constant reasons given why the article should advance, but in spite of all these it continues to decline. What the end will be, no one can tell. We are assured by manufacturers that they are losing on every ounce that is sold. On the other hand, there is a tremendous anxiety on their part to dispose of their manufactured stock, which possibly might indicate that heretofore they have made so much money that they are anxious to drop a little of it for the benefit of suffering mankind.

Opium is still without change. The demand is very limited, and prices steady.

Guarana has advanced during the month about 25 per cent., and almost unheard of prices will be obtained before any new crop can come in. The amount supplied during this year has been nothing in comparison to the usual supplies. On the other hand, it seems to be growing in favor as a medicine, so that the demand has been greater. There is not sufficient in New York City today to provide any one important manufacturer of the country with ordinary supplies. It is anticipated that the value will reach from $3.75 to $4.00 per lb.

Citric Acid has been advanced by American holders, and is exceedingly firm abroad. The demand for consumption has been active, and there is no disposition on the part of holders to sell; which condition of feeling will manifest itself very shortly, by still further decided advances.

Cream of Tartar and Tartaric Acid, have both been advanced in price by manufacturers. It is not easy to buy from them in large quantities, even at present prices, therefore none need expect any falling off, but rather an advance.

Golden-seal and Mandrake Roots have still further declined. There seems an exceedingly light demand, and as has been outlined in my communications during the past few months, there is every disposition on the part of holders to sell, as tremendous stocks block up capital that should be released.

Sugar of Milk.—This very important article in drug circles has advances fully 50 per cent. in value during the past month, owing to short supplies. There is a constant demand at present that cannot be filled because the material is not here, nor can any important supplies be had before September, when the result of the summer manufacture will begin to be felt.

Jalap Root still continues in very light stock, with no inclination to reduce valuations.

Menthol.—Very large transactions have taken place in Japan on American orders within the past month, for forward deliveries, and all purchases have been made at advanced prices. There is no prospect of lower prices for some time to come.

Peppermint Oil shows an upward tendency. Large sales have been made at considerably advanced prices.

Oil of Lemon does not seem to respond to the heavy demand, or to the more favorable season. Clearly the stocks of this article are very heavy.

Jamaica Ginger.—The supplies all seem to be in for the season, and are not excessive. Prices are gradually tending upward, and while perhaps there is no marked change to report, there is an exceeding firmness, which will result in higher prices as soon as any active demand is felt.

SCIENTIFIC PAPERS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

EDITOR OF THE DRUGGIST'S BULLETIN:
Detroit, Mich.

Dear Sir:—As Chairman of the Section on Scientific Papers of the American Pharmaceutical Association, I submit the following list of titles for publication. We have the promise of papers on these subjects and expect them to be presented at the 38th annual meeting to be held at Old Point Comfort, Virginia, commencing September 8th. I suggest that delegates come to the meeting prepared to discuss such subjects as specially interest them. It is desirable to have as many of the papers as possible in the hands of the Committee by July 1st., so that they can be published in accordance with the resolution passed at the San Francisco meeting. Titles of the papers should be reported to the Committee at once.

1. Pseudotsuga Douglasii, *Carr*, as a substitute for Quercus Ruber.
2. A Few Statistics.
3. Syrup of Hypophosphites, U. S. P.
4. Pacific Coast Specimens of Rhamnus.
5. The Florida Phosphate Deposits.
6. What is the active principle of Arnica ?
7. Not infrequently physicians prescribe in one mixture, solution of Arsenite of Potassium and Tincture of Chloride of Iron. What, if any, action or reaction do these two compounds exert upon each other, and are they incompatible therapeutically or not ?
8. Which of the modern antiseptic dressings can be prepared with advantage and profit to the retail pharmacist. ?
9. A treatise on American Isinglass.
11. An essay on the Medicinal Plants of Florida.
12. What is the comparative value of Yerba Santa, Liquorice and Saccharin in masking the taste of Quinine and other bitter substances ?
13. Quinine, Opium and Iron, pharmaceutically, scientifically and therapeutically considered.

DR. H. M. WHELPLEY.

St. Louis, Mo.

CHICAGO NEWS.

We learn from the *Druggists' Gazette*, of Chicago, that it has a new editor and new management.

Among the Chicago topics exciting interest are the following:

The Clerk Problem—There is rumor of a Drug Clerks Union with a prospective strike. Cause bad treatment and payment of clerks, which leads to establishment of too many new stores; and too many stores are responsible for low wages.

⁂

Another question being discussed is, Does the Soda Water Element of the Druggist's Business Pay? Does it not absorb time and money better employed in developing prescription business. That it does not pay in the long run is believed by many.

⁂

The time for the Illinois State Association Meetings is near at hand. The most important Committees this year in Illinois will be on Board of Pharmacy Records, and on Legislation. The general impression is that if the law cannot be improved any better than it has been by the last two assemblies, it would be better to leave legislation entirely alone.

There is complaint of lack of auditing of Secretary's report and evidence of carelessness in management of the finances. There is certainly much need of reform and efficient management.

⁂

To our regret we hear all sorts of rumors about our Pharmacy Colleges. Some of the members of the old college, had a little spat with the Faculty, and rumors are afloat to the effect that the Faculty are considering secession, possibly the foundation of a new college. We hope that this will not materialize, but would rather express a hope of uniting all the different factions under one roof.

BUFFALO COLLEGE OF PHARMACY.—At a recent meeting of the Council of the University of Buffalo, Dr. Eli H. Long, was appointed Professor of Materia Medica in the Department of Pharmacy. This appointment is in recognition of the creditable manner in which Dr. Long has given instruction in this Chair during the past year, and is richly deserved. The Council also created in the same department a new Chair, that of Pharmacognosy, and appointed Dr. John R. Gray as its first incumbent.

The Faculty fitted up a new laboratory last year, especially adapted for pharmacognocal work, and Dr. Gray gave a very successful course, receiving a flattering statement from the entire senior class. His permanent appointment is therefore, eminently proper and gratifying.

Book Reviews.

Catalogue of Plants Found in New Jersey. By N. L. Britton, Ph. D., with the Assistance of the Botanists of the State and Contiguous Territory, and of Specialists in the Several Departments of the Science. (From the Final Report of the State Geologist). Vol. II, 642 pages.

This work is based upon the Preliminary Catalogue of the Flora of New Jersey, compiled for the Geological Survey by the same author, and published in 1881. This Preliminary Catalogue was published in an interleaved form and distributed to the working botanists of New Jersey, with the expectation that they would make annotations and return the copies to the author. The expectation was fully realized, and within a year an immense amount of material was placed-in the hands of Dr. Britton. The intervening time has been spent in verifying the reports thus obtained, in studying the limitations of genera, species and varieties, and in verifying the commonly accepted names of the same. As all this work has been done in the most thorough manner, an amount of detail labor has been involved quite unusual in works of this kind. At the very beginning of his task Dr. Britton resolved to accept no reports which admitted of the slightest doubt, unless they were accompanied and confirmed by the specimens. The demand thus made for the collection of specimens subsequent to the handing in of reports has of itself occasioned no little delay. But the result has thoroughly justified the method, inasmuch as a great many errors have thus been brought to light and corrected.

The second portion of the author's task, namely, that of carefully studying and arriving at an independent conclusion concerning the limitations of species, etc., has proven very laborious, but it also has been well worth the time and effort concentrated upon it. As a result we have not only greater accuracy and better judgment recorded in our State Catalogue, but general science has been enriched by the contribution of a number of inportant generic revisions, such as those of Tissa, Hicoria, Lechea, Eliocharis and Cyperus.

As to the third part of the work, namely, the searching of the commonly accepted names of species and varieties, it has resulted in the discovery of a remarkably large number of errors in nomenclature which have been entirely overlooked by the writers of our manuals. Doubtless some annoyance will be caused to thoughtless persons upon first finding themselves called upon to unlearn erroneous names and to adopt new and correct ones, but in view of the ten years of labor which the author of this work has expended in making this contribution, no one should grumble at finding himself called upon to utilize the results of such labor. Many of these do not appear for the first time in this Catalogue, having been already recorded elsewhere, notably in a somewhat similar work, the "Catalogue of Anthophyta, and Pteridophyta Growing Within 100 miles of New York City," and which has been already reviewed in the BULLETIN.

The introduction of the work is somewhat disappointing as we had hoped to see an extended discussion of the very diverse elements which enter into the make-up of the flora of New Jersey, and upon which no one is so well qualified to speak as Dr. Britton. But only the merest outline of the subject is given. He says, "Our flora may thus be divided with considerable accuracy into a northern and a southern, whose present distribution has been determined by differences of soil and climate. As would naturally be expected, there is considerable overlapping of these two groups of plants in the portions of the State where they come together, but the conclusion reached at the time the Preliminary Catalogue was written, that they are most naturally separated by the glacial terminal moraine, appears to be substantiated. * * * * * * Besides these two main divisions of our flora there is another which may be termed the marine and coast group of plants, species and varieties especially characteristic of the sea beaches and salt or brackish marshes and meadows. Some of these are plainly forms of upland origin, which have accommodated themselves to their saline surroundings, and been thereby slightly changed in structure and appearance, so as now to be evidently distinct from their inland neighbors and relatives, while others appear to be very distinct from any other living forms. * * * * * This division of the flora is very uniform in character from one end of the coast line to the other, and is the most distinct and differentiated of all.

We may also make a fourth group of species of especial western distribution, there being a few plants mainly confined to the Delaware River valley, and reaching their greatest development in point of abundance to the west. These species have no special significance in the consideration of the origin of our flora, and might, perhaps, all be included in one or the other of the two divisions first considered."

At the end of the work is found an elaborate "Tabulation of Number of Plants Enumerated." The Anthophyta (Phænogams) number 1,919 species, varieties and forms, of which 13 are Gymnosperms, 558 Endogens, 1,348 Exogens. Of Pteridophyta there are 76, 47 of which are true ferns. Of Bryophyta there are 461 as follows: Sphagna 42, Musci 312, Hepaticæ 90 and Characeæ 17. Of Bryophyta 3,021, as follows: Lichenes 329, Algæ 987, Fungi 1,705. Besides these there are 164 Protophyta, making a total number of species, varieties and forms enumerated of 5,641. The largest natural orders are Compositæ 223, Cyperaceæ 182, Gramineæ 164, Leguminosæ 76, Rosaceæ 73, Labiatæ 66, Scrophularineæ 48, Orchideæ, Liliaceæ and Cruciferæ each 45, and Ranunculaceæ 43.

The revised names of plants as given in Britton's catalogue will be published as a Supplement to the July BULLETIN.—ED.

Flora of British India. Sir J. D. Hooker. London, L. Reeve & Co.

Part XVI, completing the fifth volume of this great work, is before us. It brings the subject matter from the conclusion of the Euphorbiaceæ up to and through Orchideæ.

Kew Gardens' Bulletin, May, 1890.

Papers CXLII and CXLVI, on "Lagos Rubber" and "Liberian Coffee," are the only ones of technical interest in this number. It is gratifying to learn that these African products are commercially satisfactory, and can be considered new factors in the world's supplies.

Washington State Pharmaceutical Association, The Constitution and By-Laws of the.

We take pleasure in acknowledging our indebtedness for a marked copy of the above from A. C. Harris, of Tacoma, Wash. From a report of the meeting of the Association which accompanies, we notice that the druggists of Washington are aiming at the passing of a pharmacy act, and that there is but little doubt of the bill becoming law so soon as the Legislature again meets in session.

Michigan State Agricultural Experiment Station. Bulletins Nos. 57, 58, 59, 60.

Druggists may find much valuable information relative to Insecticides in No. 58. The action, preparation for use, and best method of application of the arsenites, insect powder, white hellebore, carbolic acid, kerosene emulsion, carbon bisulphide, etc., are fully discussed. We consider the pamphlet invaluable to druggists in country districts who are asked for supplies of the various substances used for this purpose, and who are also asked frequently regarding strength of solutions and best mode of applying the various articles.

Practical Electro-Therapeutics: A Manual of Laboratory Experimentation for Students of Medicine. By Chas. K. McGee, A. B., Instructor in General Chemistry in the University of Michigan. Ann Arbor, Mich.: Sheehan & Co. 1890.

This is not a work of the quack or nostrum nature such as we have frequently seen. It does not advertise an electric belt, nor does it try to sell some particular make of battery—it is a scientific treatise or manual, the information of which can be confidently relied upon. The work is interleaved for notes and is full of practical experiments in the general field of electrical research, and also in that of the more special applications which its use in medicine demands. We recommend the book to all who wish a thoroughly reliable and scientific manual on the subject of Electro-Therapeutics.

California State Agricultural Experiment Station. Bulletin No. 85.

"The increasing prominence of olive culture in this State gives prominence to all light that can be thrown upon the subject, the more so as the slow growth of the trees renders mistakes made in the selection of varieties both costly and difficult of rectification." The elaborate tabulated set of data which is given, is, we presume of interest only to practical growers, but the importance of the ascertained results is apparent at a glance. Varieties have been found to differ in the proportion of kernel to 'meat' all the way from 8 to over 34 per cent. The impression that the oil of the kernel or 'pit' forms a considerable part of the product is shown to be erroneous. The proportion of oil yielded by the kernel is shown by direct experiment to vary from $\frac{1}{30}$ to $\frac{1}{160}$ of the oil obtained from the sarcocarp or 'meat.'

Real-Encyclopädie der Gesammten Pharmacie. Edited by Drs. Ewald Geissler and Josef Moeller. Vienna and Lepzig: Urban and Schwarzenberg.

Parts 125–128, embracing from Seebäder to Spirituosen, of this truly magnificent work have been received. The various subjects are exhaustively treated, the more important being signed, as usual, by the authors' names. These names are a guarantee of no small moment in a work of this nature, for one cannot fail to notice that they represent the highest professional talent in Europe. For instance, opening the pages of these parts at random we notice articles signed by Prof. Th. Husemann, of Göttingen; Dr. H. Thoms, of Berlin; Prof. Dippel, of Darmstadt; Dr. J. Pitsch, of Vienna; Prof. Kobert, of Dorpat; Dr. Vulpius, of Heidelberg, etc. The information is brought up to date in a number of cases where it has been of such a current nature that its omission would have been excusable. The researches, for example, made in Parke, Davis & Co.'s laboratory relative to Spermine are duly noticed and credited, although it is only a matter of some few weeks since these were published. The The Real-Encyclopädie takes rank in its special line as a technical work with the Encyclopædia Britannica and such standard works of a more general character; it should be owned by every one possessing a knowledge of German who is interested in the professional technics of pharmacy and the collateral sciences.

Facetiæ.

INOCULATION.

"No sooner does a member of the medical profession propose some new theory, or announce a discovery, than it is almost immediately buried beneath a load of egoism, or inflated to the bursting point by misguided, unthinking enthusiasm," said the "Doctor" as he filled his pipe and settled back for one of his "scientific dissertations," as he fondly termed his rambling talks. "Take any investigator you wish, from Harvey to Brown-Sequard, and you will observe that their discoveries and suggestions, announced with all the conservatism of skilled scientists, have been at once decried as the product of enthusiasm or dotage, or else lauded to the skies as a panacea bearing the mystic symbol of great Jove himself. A few there are who investigate the new statements carefully and rationally, but their voices are seldom heard amid the babel of contention produced by the extremists. Egoism puts a quietus upon investigation, while enthusiasm oversteps the bounds of probability, enters the realms of the impossible, and furnishes material for the pen of the satirist and pencil of the cartoonist. Taking it for granted that the foregoing premises are, in the main, correct, I will offer no apology for what I am about to state, and trust that my reputation for veracity will prevent you placing my narration within the domain of fiction. Perhaps, since the days of Jenner, no discovery has met on the one hand such determined opposition, and on the other such unreasoning encouragement, as has 'inoculation;' and the encouragement given it by the worshiping disciples of Jenner and Pasteur has been productive of much good, some harm, and a great deal of nonsense.—May I trouble you for a match? Thank you!—Jeremiah Plodgits was a farmer living about twenty miles north of Marietta, who by good management and economy had attained a position which assured himself and family the comforts, and in some instances even the luxuries, of life. This, for a Georgia husbandman, means a great deal. Consequently, when his son Bill manifested a craving desire to study medicine, old man Plodgits was in a position to humor him, and ere many weeks passed he was fairly installed in the Atlanta Medical College 'wrastlin' with femurs 'n' scapulas, 'n' fizziology 'n' sich, till y' couldn't rest,' as the old man put it.

"Bill was possessed of a speculative disposition which led him to investigate everything which bore the stamp of novelty, and in consequence he became a firm believer in inoculation and an enthusiastic admirer of Pasteur *et al.* In a letter to his father, shortly before the close of his first year, he said that he had become thoroughly convinced that the most successful physicians now-a-days were 'specialists' and that he had decided to be a 'specialist.' That he had been forcibly impressed with the investigations of a French savant named Pasteur, and that when he came home he purposed inoculating his ten year old brother Bobby with 'canine virus' in order to prevent an attack of hydrophobia as the sequel of some of his many dog bites, for, be it remembered, farmer Plodgets was possessed of a great number of dogs and Bobby was their constant companion.

"Well, the commencement of Bill's vacation arrived and the old man set off for Marietta to bring him home. During that drive of twenty miles Bill fully convinced his father that he was neglecting a solemn duty by not having Bobby inoculated at once. That evening in the presence of the family and several of the neighbors, the deed was done. Bobby was inoculated with the virus which, while producing was also to prevent a possible attack of that fell disease hydrophobia. Aside from a swelling of the arm and broken sleep for a few nights, Bobby appeared to suffer no particular inconvenience, and soon the matter was entirely forgotten. One day, about three months after this event, farmer Plodgets heard a furious barking in the back yard, and on going to the door to discover the cause, you may, perhaps, judge of his surprise at finding that Bobby had treed a big tom-cat and, with his hands against the trunk of the tree, was barking in regular canine style. Now, for the balance of this most true and most remarkable statement of facts, you will please imagine I am farmer Plodgets while I attempt to give you his story in his own quaint way. We were sitting in the summer house, smoking our after dinner pipes, and while, through the lattice work I watched the antics of this *caninized* child, farmer Plodgets told his strange story. After observing the treeing of the cat he said: 'At first I thought he was only foolin', but when one of the dogs came along n' Bobby n' thet cur began to play n' roll on the grass n' chew lugs, I tell y' I began t'feel kind o' creepy. I sot down on the back steps t' watch what he would do next. Purty soon they got tired gambolin' n' lay down on the grass with the'r heads close together. The dog put his nose t' Bobby's ear n' 'peared t' be sayin' somethin' in dog talk, after which he would git up an' walk all round Bobby two 'r three times. He didn't 'pear satisfied 'bout somethin', fer I noticed he looked real hard at Bobby's coat-tail an' then came back an' whispered somethin' more in his ear an' turned round an' wagged his tail. This seemed t' hev a powerful effect on Bobby; he got up on his hands an' knees, looked hard at the dog's tail an' then twisted his head an' looked down his own back. He 'peared kind o' sad an' thoughtful fer a time, but soon brightened up an' started fer the barn on his hands an' feet, as y' seen him jest now, the dog a follerin', 'n' I'll be dod gasted! ef that kid didn't come back in a few minutes with a coon's tail fastened onter the cellar of his pants. I thought this was crowdin' things a little too far, so I called out, sharp like, 'Hi there you Bob, come here'! but he never budged. Then I whistled on th' dog, an' I hope t' die, ef Bobby did'nt reach me first.

"'Doc, y' may try t' picter my feelins when a week had passed an' I fully realized the fact, thet my boy couldn't speak a word; thet when he wanted t' show he was pleased, he had t' make ridic'lus attempts t' wag an imaginary tail; thet he would tree every cat about the place, bark at every one who came near the house, insist on eatin' his meals under the table, an' sleepin' with the dogs in th' kennel. I thought at first I'd git shet of every doggoned cur about the place, but 't want no use, Bobby would pull up with a fresh purp every time I druv one away.

"'He gave the ole woman an' me no end of trouble, in fact, the thing was fast wearin' us both out. His old playmates used t' get him down t' the creek an' throw chips inter the water fer him t' bring out, till he would be wellnigh drowned, an' then the measley brats would decorate his coat-tail with a string of ancient tinware an' send him scamperin' home like a tornady. He'd chase the neighbor's sheep till they threatened bringin' the law agin' us, an' every time a man passed the house carryin' a gun, we had t' chain Bobby up t' keep him from follerin' thet Nimrod.

"'He's gittin' a good deal better now,' continued the old man, with a sigh, 'he's got back his language tol'able fair, n' don't bark much, but he still persists in chewin' bones n' treein' cats; thet scar on his left cheek is a gentle reminder of his attempt t' foller a ground hog inter its hole one day this spring. Since he's been able t' speak he's said a good deal 'bout his feelins' durin' his 'dog days' as he calls 'em, n' it would make you cry Doc. t' hear the touchin' way he describes his longin' fer a tail thet he could wag like other dogs. He says thet a dog thet ain't got purty consid'able of a tail is counted small pumpkins 'mong the better class of canine soci'ty.

"'Now Doc. thar 'aint nothin' more t' say 'cept thet that kid acted as dog like as you kin imagine n' it had the effect of makin' Bill let up a little on his 'specialist' business.

"'I don't suppose thet every person thet is 'nockelated fer hyderfoby has sich a flap gasted time of it as our Bobby, but if they do I would suggest thet the United States navy goes over to France n' seizes this Pasteur, n' brings him to America. Then let a few smart Alicks like my Bill, 'nock'ilate him fer hyderfoby n' yellow fever, n' cholera, n' a few other pleasin' things, so thet he could get a pretty good idea of what 'the advance of medical science' means to common folks.'

"Now although I do not at all agree with the old man's deductions, yet one can hardly blame him for feeling a little bitter," said the doctor as he shook the ashes from his pipe and prepared to take his departure, "I certainly do not think you will." Well I guess the Doctor was right. Old man Plodgets, as well as all other victims of the experiments of *embryo medicos*, has my entire and heart felt sympathy.

A. Hother

A Botanical Garden in Baltimore.—Dr. H. H. Rusby, in the *Druggists' Circular*, informs us that an important movement is on foot by some of the public spirited citizens of Baltimore, which is likely to result in the establishment of a Botanical Garden in that city.

The desire for education on botanical subjects is very rapidly growing throughout all portions of the United States, and there are few ways in which this taste can be so well and so pleasantly gratified as by the establishment of gardens of this sort. Baltimore is certainly to be congratulated on the possession of conditions so peculiarly favorable to the attainment of this end, as well as upon the possession of a class of citizens quick to take advantage of it and willing to labor enthusiastically in its interest.

MONS. XAVIER'S TELESCOPE ARM AND ITS ERRATIC CONDUCT.

Mons. Xavier was a pharmacist. Mons. X. was short of stature; he had but one arm; he was also clever. He was a great genius. Mons. X. made himself an artificial arm. He would touch a spring—the arm would fly out twice its ordinary length. When he wanted to reach a bottle from a high shelf, he would touch a button at his elbow, and—*parbleu!*—the arm would fly out double its length. This, at times, had a startling effect upon his customers. One day his particular pet drummer called upon Mons. X. He appeared to be glad to see him. He rushed to meet his friend. He accidentally, however, touched the spring. His dear friend brought action for damages. It cost Mons. X. $100 to touch that spring. Mons. X. was mad. He took off his arm. Jacques, his son, is using it for a horizontal bar in the garret. A. NOTHER.

Abstracts and Translations.

The Botanic Gardens at Kew.

It is now about two hundred years—the exact date is not known—since Lord Capel laid out the garden that has become a scientific institution of world-wide fame and influence. Switzer says, in his quaint Ichnographia Rustica, 1718, "The earliness with which this lord appeared in gardening merits a very great place in my history, and a better pen than mine to draw it." On the death of Lord Capel, in 1696, the estate of Kew House, including the garden, passed into the hands of his son-in-law, who added to its importance for a while by making it the headquarters of English astronomy. It was afterwards leased by Frederick, Prince of Wales, son of George II. The garden was made a scientific establishment—what they called a "Physic Garden" in those days—by the widow of Frederick, the dowager Princess Augusta, under the advice of the Earl of Bute. She employed William Aiton to direct the scientific work, and Sir William Chambers to superintend the decorative gardening. "Science will ever be grateful to the one," says a writer in *The Saturday Review*, "and taste will never forgive the other while his constructions remain." In 1768 Sir John Hill published a catalogue of the plants at Kew. There were fifty ferns, about six hundred trees and shrubs, and several thousand of herbaceous plants. The list was not greatly lengthened twenty-one years after, when Aiton issued the Hortus Kewensis with the aid of Dr. Solander. But the collections made by Sir Joseph Banks in Captain Cook's famous voyage were deposited here; then those of Robert Brown and Allan Cunningham, who had accompanied Captains Flinders and King respectively to Australia; then the plants of Brazil and the Cape of Good Hope, gathered by Messrs. Bowie and Masson; those of Caley, and Ker, and Menzies, and a host of smaller collections. In 1810 William Aiton the younger published a new edition of his father's work, which contained nearly ten thousand descriptions. About 1789 the estate was bought by George III, who devoted much of his leisure to its improvement. But evil days followed the death of Sir Joseph Banks, in whom Kew had a friend at court. For all Aiton could do, the Gardens sank into neglect, and in 1838 it was proposed to disestablish and disendow them. A protest was raised, and, after further consideration, the gardens were surrendered by the Crown and became a National establishment in 1840. Sir W. J. Hooker was appointed director in the following year. Kew has been fortunate in having had few changes in directors. It was in charge of William Aiton from 1759 to 1793; of William Aiton, Jr., from 1793 to 1840; Sir W. J. Hooker was director from 1841 to 1866; his son, Sir Joseph D. Hooker, from 1866 to 1886; and to him has succeeded Mr. W. T. Thisleton Dyer.

Under the directorship of Sir W. J. Hooker the Royal Botanic Gardens rapidly advanced in importance. During his term of office a report of the Progress and Condition of the Gardens was made annually. This was superseded in 1883 by a Monthly Bulletin of Miscellaneous Information. The early reports of Sir William Hooker are interesting, besides their historic and scientific value, for the evidence they give of his sturdy, ceaseless battles with the Treasury. The director is pathetic, indignant, and argumentative by turns, and one way or another he contrived to worry on till better times. In 1844 Sir William took the first important step of his administration by petitioning for a grant of the Royal Fruit House, which he offered to fill with his private collection of plant products. It was allowed in 1847, and thus the Museum of Economic Botany had its origin. This branch of the establishment now has three buildings. Every tree and plant which is known to serve a useful purpose is represented here with illustrations of the manner of its employment, if possible. While the collection is very popular with the holiday visitor who comes only to be entertained, any one can understand its serious value to an ingenious and thoughtful mechanic or manufacturer. The Museum of Timber is largely used already. Cabinet-makers and furniture manufacturers quite recognize by this time what a store of hints for their craft is garnered here. The utility of the economic section, moreover is by no means confined to the inhabitants of the British Isles. From every quarter of the globe samples of new products are sent for examination and report.

So long ago as 1815 an Herbarium and Botanical Library had been projected at Kew. George III, doubtless persuaded by Sir Joseph Banks, even raised a building for the purpose. After Sir Joseph's death, however, the scheme lapsed, and the building was granted to the King of Hanover. On his decease, Sir William Hooker urged the fulfilment of the old design, and his petition was granted when Mr. Bentham and Dr. Bromfield bequeathed their collections to the Nation. The Herbarium of Kew is the largest in the world, and by far the most useful, because it is also most admirably arranged. The number of specimens in it is not on record. At Sir William Hooker's death, twenty-four years ago, a rough estimate made the number a million, exclusive of duplicates. The written catalogue fills two gigantic volumes, and has to be continually posted up, for the collection increases by twenty thousand or so yearly. The dried plants in their portfolios stand in cases, and all are arranged upon the system of Sir Joseph Hooker's great work the Genera Plantarum. Of all these, perhaps the herbarium of Dr. Lindley is the most attractive. It occupies only four small cabinets, but the contents will surpass the visitor's utmost expectations. On the lower floor is preparing the catalogue of all plants known for which Mr. Darwin left a bequest. Mr. Daydon Jackson, Secretary to the Linnæan Society, has had the work in hand over three years, and it is not nearly finished. He employs a staff at the British Museum also. The catalogue of the library is not printed but is contained in a ponderous manuscript volume in the keeper's room. The book includes, besides all modern volumes and pamphlets on botany, a great number of those antique curiosities which bibliomaniacs treasure.

The work at Kew covers a vast field. In the first place, officially, stand the botanic interests—to study new plants and class them. Next, where plants are wanted for cultivation, which can not be obtained readily in the market, or which the service of the public demands, the Royal Gardens will supply them if possible. Where diseases, vegetable or animal or insect pests, threaten local plantations, Kew will look into the matter and consult with experts at home. Kew is also ready to report and to obtain advice upon new-industries which those upon the spot suggest. Furthermore it keeps an eye on all institutions of the same class throughout the British Empire, which act in concert with their great model in the mother-country, and through it with one another. Foreign institutions co-operate in like manner with Kew to a certain extent. From time to time the authorities of Kew publish a list of new plants, which at present seem to average five hundred to six hundred a quarter, including those renamed for scientific purposes. From time to time, also, they publish a list of the seeds matured in the Royal Gardens, which are exchanged, on application, with all regular correspondents. One of these seed lists include something like four thousand species. This magazine of seeds is collected, nominally, for the benefit of institutions which may be able sometime to return the favor in part, but in practice no one who applies with a serious purpose for seeds or plants is refused. How the rapidly increasing population of the globe is to be provided with food and clothing is a problem which the authorities of Kew believe falls within their department. They welcome every vegetable product which is reported to have qualities that make it useful to mankind, whether as a food, a medicine, a convenience, or a substance useful in manufactures. They are glad to report upon specimens of such substances, or to obtain the reports of trustworthy experts.

The story of the cinchona plantations is a good instance of the work of the Royal Gardens. Some forty years ago both the English and the Dutch authorities in the East Indies took alarm at the growing price of quinine, due to the rapid decrease of the forests of cinchona in Peru. The Dutch moved first, and imported a great number of seeds and seedlings, which they planted in Java at a heavy cost. But, probably because they had no Kew to advise them, the Dutch had chosen a species which was hardly worth growing, and the plantations have been long since uprooted. For some years the English Government confined itself to importing seeds and plants, which died on the passage to India. This was evidently futile, and Sir William Hooker urged a systematic procedure. Mr. Clements Markham, in 1859, was sent to Peru to collect seeds and young trees. When he returned, his precious stores were received at the Gardens, nursed, and transmitted to India with trifling loss. This effort was successful. In the plantations of Bengal, laid out and managed by officers recommended by Sir William Hooker, there were, at the date of the latest report, about five million trees. From Kew cinchona-trees have been distributed also to all parts of the world where there was a chance for successful cultivation. The plantations of Ceylon are only inferior to those of Bengal; in Jamaica the sales of bark exceed £5,000 a year; the tree has been introduced also into St. Helena, Trinidad, Mauritius, Cape of Good Hope, Queensland, and many other settlements. *Pop. Sc. Monthly.*

Properties of the Saw Palmetto (Sabiana Serrulata.)

This is a sedative, nutrient and diuretic. It improves digestion, induces sleep, increases flesh and weight and strength. It relieves irritation of the mucous membrane of the throat, nose and larynx, and controls and cures purulent discharges from the mucous membrane. The fluid extract of this valuable berry, as a nutrient tonic, is far in advance of the compound hypophosphites, but has a special action on the glands of the reproductive organs, as the mammæ, ovaries, prostate, testes, etc. Its action is that of a great vitalizer, tending to increase their activity, to promote their secreting faculty, and add greatly to their size.

It is specially indicated in all cases of wasting of the testes, such as varicocele, or as induced by masturbation, or which is often present in sexual impotency. In atrophy of the prostate, so very common in cases of sexual perversion, this drug operates in a most remarkable manner in overcoming the withered, blighted state of the gland; so in uterine atrophy, dependent upon ovarian blight, its action is unexcelled. In gynæcological practice it is much used to promote the growth of the mammæ, but it is on the prostate gland that this remedy exercises its best effects.

The glucoside, isolated from this old and reliable remedy, is attracting well-merited attention. This glucoside has an extremely bitter astringent taste, is extremely hygroscopic, and not well adapted for internal use, but as a local remedy in all relaxed devitalized states of the vagina it has no equal. Added to the butter of cacao, it forms a most elegant pastile tonic and astringent to the vagina and uterus; one of these inserted every other night produces a complete revolution in the tissue and causes contraction and vital tonicity. They are especially indicated in prolapsus uteri, leucorrhœa, sexual lethargy, sterility, and whenever the reproductive organs are worn out by frequent parturition or exhausted by sexual excesses. Did our space permit, we would cite case after case in both morbid conditions in which the saw palmetto was used with the very best satisfaction.

The plant grows abundantly in the sandy soils of the sea coast and sea islands of South Carolina, Georgia and Florida, and perhaps extends into Alabama, Louisiana, Texas and California. The belt of territory inhabited by it extends eight or ten miles from the sea-beach, for the nearer the sea the more luxuriant its growth. Like most crops, its fruit is most abundant in alternate years. It is the common plant in the section of the country in which it grows, forming palmetto scrubs, which extend in unbroken ranges for hundreds of miles, and are, from their density and the saw-like edges of their leaves, almost impassable for human beings. The beach, extending from Mosquito Inlet, in Florida, to Jupiter Inlet, is one vast scrub over one hundred and fifty miles long, and from a quarter to three miles wide. The saw palmetto berries, or, more properly, grapes, ripen October and November, and may be found until the middle of December. They are about the size of an olive, dark purple in color, and contain a large quantity of juice, and a pit shaped like that of the olive. The berries are at first exceedingly sweet to the taste, but in a few seconds this is followed by an acrid, pungent sensation that spreads to the fauces, nasal mucous membrane and larynx. This in turn is succeeded by a feeling of smoothness in all those parts, as if they had been coated with oil; the general impression is that of a sweet and decidedly strong, though not unpleasant but gracious taste, which increases with the age of the fruit.

The seeds are enveloped in a tough, fibrous membrane, are very hard, and when cut open, present a white, oily, glistening substance, which burns readily with a blue flame and gives off the odor of roasted coffee. The oil, or rather oils, for there are two—a volatile oil, solution in alcohol, and a fixed oil—are obtained from the expressed juice, by allowing it to stand for some time. In a few days the oils rise to the surface and the liquid is resolved into three layers: First, a volatile oil; next, a thicker grayish brown fixed oil; and then a yellowish-watery fluid, containing a large percentage of saccharine matter, richer in fact than cane juice itself. By evaporation, this fluid yields a rich golden syrup, which neither ferments nor candies, slightly retaining the peculiar taste of the fruit.

Hogs, bears, and wild animals generally, eat them and fatten rapidly. It is the only thing that will fatten a piny-woods razor-back hog. When there is a big crop of palmetto berries, the next year there is an increase in hogs and crackers.—J. M. Dixon Ph. G. in *Pacific Record of Medicine and Surgery.*

Does Modern Pharmacy Satisfy the Requirements of Modern Therapeutics?*

Dr. F. A. Woodbury published a scholarly article under the above title in the *Medical Times and Register*, May 10th, 1890. In it he ably considers a question of very grave interest to all progressive pharmacists. We quote his views here in part only, and commend to our readers his complete article:

To be brief, I would answer my own query, and say that modern pharmacy does, and does not, satisfy the demands of modern therapeutics; and that wherein it comes short it is a great part the fault of the physician. I hold it to be the duty of every physician who buys pharmaceutical preparations, either directly, or indirectly through the medium of a written order (*i. e.*, a prescription) to verify the quality of the articles which are supplied. He should allow no selfish consideration, or mistaken or morbid sentiment, to prevent him from directing his patient to go to a particular place, or to purchase the make of a particular firm, in order to make it certain that he should receive the exact article which was prescribed, and combined *secundum artem.* In some cases, it is of such importance that the physician should himself obtain and administer the agent, in order to save human life and suffering. The good of the patient is admittedly his first consideration, and no amount of trouble should be spared if necessary to secure it. I believe that if this plan is followed systematically and strictly, the dishonest and unworthy druggists will disappear by the law of natural selection.

We are now about to have a decennial revision of the United States "Pharmacopœia," a work, the importance of which should be recognized by every physician. Owing to circumstances which we need not discuss at present, the task and responsibility of the work of revision of the "Pharmacopœia" has fallen, to a very large extent, upon the pharmaceutical branch of medicine. The idea, indeed, seems to have grown up among certain circles that physicians have no interest in the "Pharmacopœia," and their voice should not be heard in the matter of revision; that no one but the pharmacist should be consulted in the work. In my opinion, nothing could be further from the truth. The "Pharmacopœia" prescribes the standards of quality and activity of drugs and preparations, and directs which shall be kept in the shops. It may be incidentally mentioned that the object of keeping such remedial agents in the shops, is not to gratify the æsthetic taste of the pharmacist, but in order that they may be prescribed and used by the physician. The latter, therefore, it seems to me, has a more direct and vital interest in the "Pharmacopœia" than the former.

Amid all the errors of so called dosimetry, chiefly due to the efforts of enthusiasts to make it a complete system of medicine, it must be admitted that it was based upon a legitimate demand of science for exactness of dosage. Those who have given any thought to the subject, and investigated the question, are aware that there is a remarkable and altogether discreditable lack of uniformity in preparations having the same Pharmacopœial name and formula, when bought at different retail druggists. We also know that the fluid extracts, tinctures and crude drugs, as supplied by different pharmacists, vary greatly both in price and in therapeutic action. In illustration, I may refer to the following assays of crude drugs given me by my friend Dr. H. H. Rusby, of Columbia College, New York:

MINIMUM AND MAXIMUM ACTIVITY OF CRUDE DRUGS, BASED UPON ASSAYS CONDUCTED IN THE ANALYTICAL DEPARTMENT OF MESSRS, PARKE, DAVIS & CO., DETROIT, MICH.

Name of Drug.	No. of Specimens.	Minimum Strength.	Maximum Strength.
Aconite root	23	1:400 physiological test	1:800
American hellebore	11	10 grms.—4.5 c. c. N|20 Mayer's	16 c.c Mayer's
Belladonna leaves	22	0.2 per cent atropine	0.69 per cent.
Belladonna root	26	0.53 per cent. atropine	0.74 per cent.
Cinchona calisaya	6	2.2 per c. total alkaloid	5.1 per cent.
Cinchona red	5	5.2 per c. "	9.8 per cent.
Coca leaves	8	0.46 per c. cocaine	0.75 per c.
Colchicum root	11	0.5 p. c. colchicine	0.84 per c.
Colchicum seed	10	0.4 per c. colchicine	1.06 per c.
Gelsemium root	10	10 grms.—5.7 c. c. Mayer's N|20	9.7 c. c.
Henbane leaves	14	10 grms.—2.2 c. c. Mayer's N|20	4.4 c. c.
Ipecac	8	2 per c. emetine	4.1 per c.
Nux vomica	9	1.1 per c. total alkaloid	4.86 per c.
Stramonium leaves	15	0.21 per cent. total alkaloid	0.5 per c.
Stramonium seed	5	0.4 per cent. alkaloid	0.0 per c.

Modern therapeutics rate the value of a remedy according to the proportion of its active principle, if this has been isolated, or, in other words upon its physiological activity. If crude drugs vary in their proportion of content of active principle, as we know they always do, then science requires that a greater or less proportion of the drug should be used in making the various pharmaceutical preparations, in order that there should be uniformity of product. For example, that one minim or one drachm of tincture of opium or of nux vomica, or of the fluid extract of ergot, should represent a certain amount of active principle in each case, so that we can rely upon always obtaining from their administration effects proportionate to the dose. All of our works on therapeutics are based upon the hypothesis that this is now the practice and that the drugs are uniform in quality and in composition. This is a consummation devoutly to be wished, but, unfortunately, we are still far from its attainment. The Pharmacopœia should be made to throw the whole weight of its influence in the scale of scientific medicine. by requiring the standardizing of pharmaceutical preparations. Medicine can never assume the dignity of a science until precision in diagnosis, and skill in recognizing the appropriate remedy, is supplemented and accompanied by exactness of dosage and absolute reliability and integrity of remedial agents. I believe that this is perfectly feasible and can be accomplished. The first step, in my opinion, towards its accomplishment, will be taken when the representatives of practical medicine and pharmacy will agree to labor together harmoniously for the protection of the public against impure and adulterated drugs; and will devote the amount of consideration to the revision of the Pharmacopœia which its importance demands. By so doing they will secure for the people of this country not only the best pharmaceuticals, but also ensure their uniformity in every drug shop in the land. When this takes place, pharmacy will fully satisfy the requirements of modern therapeutics, but not until then.

---

*Abstract of article by Frank Woodbury, A. M., M. D., Hon. Prof. Clinical Medicine, Medico-Chirurgical College.

218 S. 16TH ST., PHILA.

Quantitative Estimation of Cod-Liver Oil in Malt Extract with Cod-Liver Oil Preparations.[*]

Professor J. König refers in his admirable compilation "Chemische Zusammensetzung der menschlichen Nahrungs- und Genussmittel," 3te Aufl., 1889, to 17 kinds of malt extracts. A few analyses are old and none is American. But I have no doubt that their figures serve yet. The editor of the *Pharm. Rundschau* filled last year (*Rundschau*, 1889, p. 218) to some extent another deficiency in this branch of analytical work, and quoted many analyses of infant food, lactated food, milk food and farinaceous food.

But I cannot find reports on assays of malt extracts containing cod-liver oil, and offer a few of mine, considering their place to be among food analyses. I will describe first the simple method followed:

A—25 grammes of the preparation containing malt extract with cod-liver oil is boiled in a suitable flask with 10 times its volume of water for an hour.

B—Remove, yet warm, to a large separator and set aside in a warm place for 24 hours; the wash waters of the flask are, of course, added to the contents of the separator.

C—The watery fluid is separated from the frothy top layer. This layer is shaken out with a large quantity (500 c. c.) of boiling water, and the separator again set aside in a warm place for 24 hours. This operation is repeated until the watery fluid separates clear, which takes usually 3 or 4 days, and depends a good deal on a sharp separation.

D—After the removal of the water, I add 100 c. c. of a mixture of equal quantities of ether and chloroform (this is preferable to chloroform alone, which emulsifies too easily; neither did amyl-alcohol yield good results). Agitate thoroughly, separate, collect in a tared porcelain dish, expel ether and chloroform, cool off and weigh; multiply results by 4 to obtain the percentage of the oil.

E—The oil is to be examined in regard to iodine absorption, for free and combined fatty acids, specific gravity, iodine, albumen, etc., just as a natural product. This I *consider to be as important as any assay of a crude drug*. (Compare on standard Sperm oil in *Druggists' Circular*.)

I determined lately the cod-liver oil in a few samples malt extract with cod-liver oil of American manufacture, and made an emulsion myself to test the value of the process above given:

No.	Percentage of Oil claimed.	found.	Sp. Gr.
1,	40	35	—
2,	40	26	—
3,	12·5	7·5	1·32
4 (own made),	12·5	12	1·27

The difference between the percentage figures in the two columns are probably the consequence of an unintentionally inaccurate description. I think Nos. 1, 2 and 3 are erroneously reckoned by volume.

How misleading those statements are may be seen from a specific gravity determination. Cod-liver oil is usually 0·923; malt extract is more variable, 1·36 is found to be an average.

My own emulsion of malt extract with cod-liver oil (No. 4) has the specific gravity 1·27, and the malt extract used was 1·35. The oil contained ± 1 per cent. free fatty acids, and the malt extract had a converting power for starch (potato starch) of 1:10—items which I recommend for consideration when there is question of malt extract with cod-liver oil *as a food*.

LABORATORY OF PARKE, DAVIS & CO.,
DETROIT, May 14th, 1890.

---

[*] J. B. Nagelvoort in *American Journal of Pharmacy*. June, 1890.

Pharmaceutical Progress.

RUST PREVENTATIVE.—In order to keep machinery from rusting, take 1 ounce of camphor, dissolve it in 1 pound of melted lard; take off the scum, and mix as much fine black lead as will give it iron color. Clean the machinery, and smear it with this mixture. After twenty-four hours, rub clean with soft linen cloth. It will keep clean for months under ordinary circumstances. —*National Druggist*, May 1st, '90.

ANOTHER ANTIPYRIN INCOMPATIBLE.—M. Tardy, a pharmacist's assistant, has observed that when antipyrin and carbolic acid are prescribed in the same mixture, an insoluble, oily liquid will separate and probably impair the properties of either or both of the constituents. The upper, or watery, layer appears to contain most of the antipyrin, and the lower oily stratum most of the carbolic acid, but both somewhat altered in odor and appearance.—*Chem. and Drug.*, May 24th, 1890.

A NEW FRUIT SYRUP.—From the same source as the foregoing we notice an extract taken originally from the *California Fruit Grower*. The paragraph informs us that a delightful syrup can be made from watermelons by chopping them, pressing out the juice, and boiling for several hours. The red coloring matter then coagulates, rises to the surface, and is skimmed off, when the juice remains "as clear as distilled water and of a pale amber color. Boiled a little longer, it thickens into a rich, fruity-flavored syrup, perfectly clear and the color of quince or apple jelly."

COFFEE TABLETS.—Compressed coffee, manufactured by a firm in Hamburg, under A. Von Hoffmann's patent, has for some time been supplied to the German army, and is also found convenient for the use of travelers, sportsmen, etc. It is furnished in 1-ounce cakes, each divisible into 6 parts, one of which, being broken off and crushed, makes a cup of coffee by the addition of boiling water. The full strength and aroma of the berry are preserved for a certain period as a result of compression and by wrapping the tablets in stout parchment paper.—*Drug Circular and Chem. Gaz.*

THE DESTRUCTION OF COCKROACHES.—If the large roaches (*Blatta Orientalis*), are meant it is suggested that a smooth porcelain wash-dish be filled one quarter full with beer, surrounding the dish on the outside with moist cloths. In the evening this arrangement is placed on the floor of the kitchen, etc. During the night the roaches creep over the moist rags into the beer, there get drunk, and as a result of their condition and the smoothness and steepness of the walls of the dish, cannot make their way out. This dish is often filled with the roaches close to the edges.—*Phar. Zeitung*, p. 292, May 10th, 1890.

MEDICINAL RHUBARB—A POSSIBLE NEW SOURCE OF SUPPLY.—From a recent number of an exchange (*Garden and Forest*, May 14th) we read that "Some years ago seeds of Russian rhubarb were sent to the State Experiment Station at Amherst, Massachusetts, and plants raised from the matured seed. A number of plants have been produced from this home-grown seed, and the roots, it is said, have been sent out for trial by druggists. It would be interesting to know whether any reports as to the medicinal value of the roots have been made." We do not recollect ever having noticed any recorded results as to the feasibility of thus growing our own supply of medicinal rhubarb. Have any of our Eastern friends heard of any such reports as that to which our exchange refers?

DETERMINATION OF THE QUININE IN QUININE TANNATE.—According to S. Neumann, shake 2 grains of the powdered sample with 20 to 25 c. c. of potash lye, of a specific gravity of 124°, in a 300-c. c. flask; dilute to 60–80 c. c.; add exactly 100 c. c. of ether, and shake again after the cylinder has been quickly sealed. As soon as the liquid has separated, 50 c. c. of ether are drawn off by means of a pipette, and the ether is permitted to evaporate in a tared beaker. The residue must completely dissolve in diluted sulphuric or hydrochloric acid; otherwise, the ether was not pure, or other substances, readily soluble in ether, were present in the preparation (fats, resins, etc.). This method is utilizable only for practical purposes in the laboratory. It is decidedly to be preferred to the Orrillard method (condensing with lime, extracting with alcohol, and precipitating with potassium), as the quinine does not admit of of complete extraction from lime.—*Zeitschrift Analyt. Chem.*, XXVIII, 630.

FORMULÆ FOR DISPENSING ARISTOL.—The new substitute for iodoform, aristol, or di-thymol iodide, seems to be coming rapidly to the front in Germany, which means that it will soon be in common use here. The following formulæ for the forms in which it is dispensed, are, therefore, worth remembering:

FOR PAINTING ON THE SKIN.

1.	Aristol	1 part.
	Flexible collodion	9 parts.

Mix, and dispense in a dark-colored bottle.

2.	Aristol	1 part.
	Olive oil	2 parts.
	Lanolin	7 parts.

Dissolve the aristol in the oil and mix with the lanolin.

Aristol bougies, suppositories, pessaries, etc., are made with cacao butter in the usual way.—*National Druggist*, May 15th, 1890.

CONDURANGIN—THE ACTIVE PRINCIPLE OF CONDURANGO.—According to Professor Kobert (in *Schmidt's Jahrbücher*), the so-called condurangin is a mixture of glucosides which coagulate from aqueous solutions heated to 104° F. on the addition of sodium chloride, thus resembling an albumen. When an aqueous solution is heated and passed through a filter the filtrate does not show a trace of condurangin. The author has separated from the bark two distinct glucosides and a resin. The exact formulæ of the glucosides has not yet been determined. In experimenting with condurangin to determine its physiological action, Kobert found that it possesses well-marked action on the nervous system, producing, when given in minute doses, an ataxic gait, and skin and tendon reflexes. Larger doses produce clonic convulsions, paralysis, and death. One centigramme of the substance to each pound of body weight constitutes the lethal dose for carnivorous animals, while gramnivorous or herbivorous animals require three times as much.—*National Druggist*, May 1st, 1890.

HOP SUBSTITUTES.—At one of the sittings of the Select Committee on the hop question, Dr. Bell, of Somerset House, stated that he could tell whether a beer contained any bitter other than the hop bitter. Sir Henry Roscoe appeared to be skeptical about this statement, but Dr. Bell repeated that he was in a position to say from the result of experimenting on four substitutes —quassia, chiretta, gentian, and calumba—that he could distinguish them from hops, but not from one another. He thought, further, that there was a possibility of finding some test whereby substitutes could be detected in any quantity with certainty. Mr. Richard Bannister, Dr. Bell's colleague, corroborated. They had not worked upon quantities such as those which would be used in brewing. It would be necessary to make further experiments before he could give any information as to the mode of detecting these ingredients in such quantities as would be found in beer. It was the opinion of both witnesses that less hop is now used than formerly, owing to the demand for lighter beer.—*Chemist and Druggist*, May 17th, 1890.

COLLAPSIBLE TUBES.—It is not so very long since collapsible tubes were introduced, and unlike many things which the public take kindly to, as they have done in this case, it was some time before retail chemists could get them. But lately we have noticed that those who put up their own specialities, such as tooth-paste, perfumes, and ointments, have found the tubes useful; and as the trade would doubtless like to hear something about them, a few notes from our Town Traveller's book will not be out of place. When the druggist gets the tubes, he finds that each one is a perfect metallic cylinder, closed at one end, to which a screw-cap is attached. This, with the exception of the cap, is made, by an ingenious device, from a single piece of pure tin, in the form of a solid disc. There is no weld in the tube as finished—enormous pressure simply has been used to give it its perfect form. The tendency amongst surgeons now is to have all ointments, used by themselves at least, sent out in these tubes. They are so much more cleanly than sticking one's finger into a pot, or a chip box which is it the last stages of disintegration; and obviously it is of the highest importance that all surgical applications should be kept as aseptic as possible.—*Chem. and Druggist.*

ANTHRAROBIN AND GOA POWDER.—The fact that Goa powder, or some closely allied substance, has been sometimes supplied in Germany when anthrarobin has been ordered, has induced Dr. Mühe to put on record some characters and tests by which the two substances can be readily distinguished from one another (*Apoth. Zeit.*, March 1st, p. 105). The anthrarobin prepared by Professor Liebermann, and recommended as a substitute for chrysarobin, is a yellowish-white powder, which in the dry condition is fairly permanent, especially if it be sheltered from light; after a time, however, it becomes somewhat darker through oxydation. The color, therefore, differs from the brown-yellow of Goa powder. If 0.1 gramme of anthrarobin be shaken with 20 grammes of 2.5 per cent. borax solution, it dissolves immediately to a clear yellow liquor, the froth having the same color, while Goa powder under the same conditions only partly dissolves and forms a turbid brown liquid with brown froth. In dilute soda or ammonia liquor, anthrarobin forms at once a yellow brown solution, which, shaken in contact with air, becomes quickly green, then blue, and eventually violet; Goa powder gives a beautiful violet-red solution, the color of which is very permanent and not altered by contact with air. Another readily distinctive test is the reaction with concentrated sulphuric acid, anthrarobin forming a deep brown-yellow solution without froth (re-formation of alizarin), and Goa powder dissolving with frothing and a red-yellow-color.—*Pharm. Journal and Transactions.*

CULTIVATION OF CINCHONA.—The Indian Government has not only done much to establish the cultivation of cinchona in suitable parts of that country, but has also given the widest possible publicity to the cheapest and most effective process for extracting its alkaloids. An effort is now being made, however, to induce the natives to carry on this industry under private management, and to this end the quinine-yielding value of different cinchonas has been carefully studied by Mr. M. A. Lawson, Government Botanist and director of the cinchona plantations in Madras.

Out of six species or varieties of cinchona experimented with, under the same conditions of soil, climate and exposure, he has discovered the most satisfactory variety, because the richest in quinine and most hardy in growth, to be intermediate between the *Cinchona officinalis*, and the *C. succirubra*, as for instance the *C. magnifolia*. Other experiments show that, according to the lowest and most cautious estimates, and making every allowance for occasional fluctuations in the market, an acre of cinchona trees will produce on the average 26,130 pounds of dry bark, and 1,120 pounds of sulphate of quinine, thus proving that, even should the present low price of quinine continue, it could not fail to be a remunerative industry.—*American Agriculturist.*

OREXIN.—The commercial article known under this name is really the hydrochlorate of a new synthetically produced, non-oxygenated basic substance, possessing powerful tonic, stomachic and appetizing properties. It has the formula $C_{14}H_{12}N_2$,HCl,2H_2O. The chemistry of this new remedy will be found in the *Pharmaceutical Journal* [3], vol. xx, p. 709.

The hydrochlorate is a yellowish-tinted semi-crystalline powder, and produces sneezing as urgently as salicylic acid does during manipulation. It has a pungent and anæsthetic after taste, not so persistent, however, as to preclude its combination with aromatics to form a very palatable elixir.

It is soluble in 20 to 25 parts of water at 60° F., and gives a white pulverulent precipitate with ammonia, insoluble in excess, but freely soluble in ether and chloroform. The salt is insoluble in ether, but with ammonia the base separates, not as an oily, afterwards crystallizable, alkaloid, as has been said, but in the manner stated above.

The dose is 2 to 10 grains in capsules, pills, or cachets, followed by a quantity of liquid to neutralise its pungency.—George Lunan in *Pharm. Journal and Transactions.*

A SYNTHETIC APPETIZER.—Another new member has been added to the steadily growing list of remedies for the diseases which afflict man, and ere long we shall probably have, as the *Pharmaceutische Zeitung* hints, a remedy for every condition of illness. The latest comer is, fortunately, not an antipyretic, but an appetizer. It is the hydrochloride of phenyl-dihydro-chinazolin, and "for short" will be known as *Orexin*, which literally means appetizer, the name being derived from the Greek. The constitution of the body is represented by the formula:

$$C_6H_4.N.CH.HCl.N.CH_2.C_6H_5.$$

This base occurs in glistening needles, which contain two molecules of crystallization. It is insoluble in water, but its hydrochloride readily dissolves. The remedy is given in pill form, thus:

Orexin hydrochloride	30 grs.
Extract of gentian, Powdered althea root,	of each sufficient

to make a mass, which is to be divided into 20 pills. Coat with gelatin.

Three to five of these pills are to be given once or twice a day with a large cupful of beef tea. The contemporary from whom we quote, rather ironically remarks that gentian extract and beef tea are themselves good and powerful stimulants of the appetite, and leave us somewhat in doubt as to whether the good results of orexin are due to it or its vehicles.—*Chem. and Drug.*, March, 1890.

PTOMAINES.—Wyborn, by macerating some finely-minced beef with twice its weight of water, and exposing it in the sunlight for sixteen days, then straining and precipitating with an equal volume of absolute alcohol, washing with boiling alcohol, and finally drying in warm air, obtained a ptomaine product without the use of acid. The residue formed 0.067 per cent. of the original beef. When treated with a mixture of equal volumes of glycerine and water an amber-colored solution and a brown precipitate were obtained. After the solution had been kept a month, subcutaneous injections of 5 minims, containing $\frac{1}{16}$ grain of residue, were made with mice, and proved fatal in about an hour. Peptones and cadaveric alkaloids were present.

The ptomaines and leucomaines have a similar chemical constitution to meta- and para-phenylenediamines, and accordingly, the physiological action of the latter possesses much interest. When administered in the proportion of 0.1 gramme to each kilo of body-weight, salivation, vomiting, diarrhœa, increased diuresis, and coma, are produced by both bodies, death ensuing in two to three hours with the para-compound, and in fifteen hours with the meta-compound. They remove the oxygen from the blood and tissues, and a dark tint is imparted to these and the brownish products formed. In dogs, severe influenza symptoms, accompanied by constant sneezing and cough, ending in coma and death, are caused by the meta-compound; and a very remarkable exophthalmia with complete alteration of the tissues of the eye results from the para-phenylenediamines.—*British Medical Journal.*

MEDICINAL GELATINS —These preparations are indicated in superficial inflammatory affections when the skin is swollen, wet, and itchy. Very high temperatures, and profuse sweating, forbid their use. For a general basis the following formula is given—the figures within parentheses being taken when a hard zinc gelatin is wanted:

℞	Zinc oxide	15	(10)
	Gelatin	15	(30)
	Glycerin	25	(30)
	Water	45	(30)

(1) Cerussa, iodide of lead, white precipitate, sulphur, iodoform, chrysarobin in fine powder, may be mixed in any proportion required. From 5 to 10 per cent. added to soft zinc gelatin is recommended.

(2) Carbolic and salicylic acid, resorcin, naphthol, creasote, and sulphide of potassium, may be added to the hard gelatin basis in any proportion up to 10 per cent.

(3) Fats, balsams, tars, and ichthyol, all make the basis softer. The proportion added is usually from 10 to 20 per cent.

(4) If we wish to combine drugs in rules 2 and 3, then the sum of the proportions must be attended to. For example, if resorcin and salicylic acid are both ordered, we should not prescribe more than 5 per cent. of each if we wish the gelatin to form a good covering.

(5) Powders may be combined in any proportions.

(6) Tannin, pyrogallol, and oxide of mercury, cannot be added to the basis.

(7) Corrosive sublimate up to 3 per cent.; camphor, chloral, and camphor-chloral, all to 2 per cent.; extract of cannabis Indica from 2 to 5 per cent., may be used with soft zinc gelatin.

The different glues should be dispensed in pots, which are to be put in boiling water when the preparation is to be used. It is to be painted on the skin with a long haired brush.—*Deutsch Med. Zeitung*, Nov. 4th, '89.

Notes and News.

A PROFITABLE SPECIALTY FOR DRUGGISTS DURING THE FLY SEASON.—Druggists interested in selling to their customers efficient methods of limiting the fly population, should correspond with O. & W. Thum, who present their specialties in this line in our advertising columns.

HOW TO MAKE HAND-GRENADE FIRE EXTINGUISHERS.—Any one can make the hand-grenade fire extinguishers, and at a small fraction of the prices charged in the market. Any light quart bottle will serve to hold the solution, which is composed of 1 pound of sal-ammoniac, dissolved in about two quarts of water.—*American Druggist*, May, 1890.

THE PERCENTAGE OF POSITIVELY USEFUL DRUGS. Dr. Uhler writes, in the *Maryland Medical Journal:* "Materia medica and therapeutics are more exact than I anticipated; for, after an examination of 324 remedies described in our text-books, I find that 218 are known to frequently do their work, 116 are untrustworthy, and about one-third of the whole, or 108, are very active; and this is probably the correct answer to Professor Bartholow's question of the 'Degree of Certainty in Therapeutics.'"—*Meyer Bros. Druggist,* May, 1890.

WHY SHOULD NOT LADIES TAKE TO PHARMACY?—A daily journal has recently pointed out that pharmacy is now quite open to persons of the female sex, and suggests, what is certainly true, that it is a calling for which their neat touch and delicacy would seem peculiarly to suit them. For a long time there were difficulties in the way, but these have now been overcome, and there is no reason why lady chemists should not commence business, under the patronage—if they can secure it—of the lady doctors.—*The Lancet,* May 17th, 1890.

THE DUTY ON COD-LIVER OIL.—Many of the representative wholesale drug firms and manufacturing chemists of New York and Philadelphia have joined in a protest to Congress against the further imposition of a duty on cod-liver oil. They urge that cod-liver oil cannot be obtained in sufficient quantities in the United States, on account of the limited supply of fresh cod livers; that it is used not only as a medicine, but also as a food for weak persons, and that no other article can replace its excellent qualities for these purposes. They beg, therefore, that the Committee on Revision of the Tariff will place this medicinal article on the free list.

PROGRESS IN EXEMPTION OF PHARMACISTS FROM JURY DUTY.—We have before urged in the BULLETIN the propriety of releasing druggists from jury duty, and note that New York State has now taken this step in advance. The recent enactment passed is as follows:

AN ACT TO AMEND THE CODE OF CIVIL PROCEDURE.

The People of the State of New York, represented in Senate Assembly, do enact as follows:

Section 1. Subdivision four of section ten hundred and thirty of the Code of Civil Procedure is hereby amended so as to read as follows:

4. A practicing physician or surgeon having patients requiring his daily professional attention, and a licensed pharmacist actually engaged in his profession as a means of livelihood.

PROFIT-SHARING ADOPTED BY A GERMAN MANUFACTURING PHARMACIST.—Profit-sharing appears to be making some way in German industry. Last week the proprietors of the Berlin firm of S. D. Riedel, manufacturers of pharmaceutical preparations, celebrated the completion of the seventy fifth anniversary of their business by a dinner to their employés, 200 in number. On that occasion it was announced that in future an annual bonus varying between 30 marks and 80 marks, according to the profit of the business, will be paid to all employés who have been at least five years in the service of the firm.—*Chemist and Druggist,* April 26th, 1890.

THE HOOD'S SARSAPARILLA TRADEMARK.—It is reported from Boston that an attempt was made by Henry Thayer & Co., of Cambridge, a few days ago, in the Supreme Judicial Court before Judge Holmes, to reform and modify a decree obtained by C. I. Hood & Co., of sarsaparilla fame, against them in December, 1886. This decree decided that Hood & Co. were entitled to the familiar Z formation (as it appears upon their wrappers) as used for a trademark, and Thayer & Co. were enjoined from the use of the same. Now the defendants, Thayer & Co., endeavor to have the decree changed so as not to include the Z formation, on the ground that it was signed and issued through mistake and inadvertence, and that they had made use of the same prior to its use by Hood; but their petition, after an extended hearing, was peremptorily dismissed by the Court upon the merits, and the decree in favor of C. I. Hood & Co. was confirmed, which decree entitles Hood & Co. to the exclusive use of the Z formation, as now used by them. Livermore, Fish & Richardson appeared for Thayer & Co.; Causten Browne and George L. Huntress for C. I. Hood.

A FUNNY INCIDENT OF THE MEETING AT THE RECENT CONVENTION FOR THE REVISION OF THE PHARMACOPŒIA.—A correspondent who attended the meeting at Washington, sends us the following story, the truth of which he vouches for:

A gentleman somewhat connected with the National Formulary visited Washington during the session of the Pharmacopœial Convention. Prior to leaving his home he had provided himself with cards giving his name and all his titles, which he intended to hand to such members of the Convention as he might be introduced to. These cards he had put into his hip pocket.

Being of Teutonic origin, he hied himself to a beer saloon with a number of friends, and finding that the beer in said saloon was exceedingly good, he asked the saloon-keeper to give him a number of his business cards, which he no doubt would have opportunity to hand to other members attending the Convention, so that they also could partake of the excellent beer. These cards the bearer also placed in his hip pocket.

During the meeting he tried frequently to get the floor, and thus made himself conspicuous. When he attempted for the sixth time to gain the floor, the President asked the gentleman his name. Intending to send up one of the cards with which he had provided himself before leaving his Western home, he put his hand in his hip pocket and sent up a card to the President. The President read thereon. "Alfred Schorlemmer, Beer Saloon, cor. Blank and Blank Sts.," and everyone can imagine the embarrassment of the gentleman connected with the National Formulary, and the hilarity of the other members of the Convention.

DRUGGISTS' BULLETIN

A MONTHLY EXPONENT OF

PHARMACEUTICAL PROGRESS AND NEWS.

VOL. IV., No. 7. DETROIT, MICH., JULY, 1890. $1.00 a year. Single copies, 10 cents.

THE DRUGGISTS' BULLETIN.
ISSUED MONTHLY.

EDITOR:
B. W. PALMER, A. M., M. D.

COLLABORATORS:
PRACTICAL PHARMACY.
J. LE ROY WEBBER, PH. G., LEON C. FINK.

CHEMISTRY.
F. A. THOMPSON, PH. C., J. H. NAGELVOORT, PH. G.

BOTANY AND MATERIA MEDICA.
H. H. RUSBY, M. D., G. SUTTIE.

PHARMACEUTICAL APPARATUS AND INVENTIONS.
J. B. RUSSELL, PH. G.

GEO. S. DAVIS, Publisher,
P. O. Box 470, DETROIT, MICH.

Articles designed for insertion in THE BULLETIN, subscriptions, advertisements, and all communications should be addressed to the publisher.

Editorial.

COMPLIMENTS TO PHARMACISTS.

It is always pleasant to report the agreeable things said of one individually or of one's profession, and when so representative a journal as the London *Lancet* gives expression to the following sentiments, it shows the medical profession are disposed to render tribute to whom tribute is due, and yield to pharmacy and pharmacists their just meed of praise.

"Complimentary allusions to the progress of pharmacy during the last thirty-five years were recently made at the dinner of the Pharmaceutical Society. Certainly, within that period medicine has had much cause to be grateful for the help it has derived from the patient work of the pharmacist. The range of new remedies has been considerably widened, and methods of administration have been vastly improved."

Another step in this direction has been made in our own country recently at the meeting of the American Medical Association, where a new section on Materia Medica and Pharmacy was created. It is to be hoped that mutual association and co-operation will advance the interests of both arts.

A VICTORY FOR THE DRUG TRADE.

The drug trade are to be congratulated that the objectionable bill ostensibly proposed for the prevention of adulteration of food and drugs, and which was so loaded with unjust discrimination against druggists' interests as to inspire most active opposition, has been, through the energetic efforts of the pharmaceutical press and representatives of drug associations, so modified as to eliminate its most objectionable features.

It is to be hoped that it will now be passed without meddlesome interference. It is also "a consummation devoutly to be wished" that tariff questions affecting drugs may speedily be settled, and the present inactive condition of the drug market restored to its normal vigorous activity.

Druggists should bear in mind the moral of the success met with in the defeat of this original Senate Bill 279, which is that "In union there is strength." Appropriate legislation can only be had by efficient combination of effort.

SHORTAGES OF PHARMACEUTICALS.

One of the bugbears of the druggist's life is the adjustment of shortages in orders. Naturally the jobber is the party accused, or it is the jobber who charges the manufacturer with errors of this nature.

That such causes of friction might be avoided by the exercise of more care by the receiving clerks, was brought conspicuously to our attention recently by an incident which was duly vouched for by its reporter. The facts were as follows:

A prominent wholesaler reported to a manufacturer a shortage of some sixty dollars worth of goods. Thorough investigation was made by the shipper and, while it was certain the goods had been sent, the allowance claimed was made.

The second act of the comedy was the use of the said manufacturer's barrel (one of the lot containing the goods reported short), by the wholesaler in a shipment to a retail house. The retailer found in the bottom of the barrel, after checking his own order, the missing sixty dollars worth of stock the subject of the hitherto inexplicable shortage claim. With characteristic honesty, he reported the surplus find.

The moral of this tale is so evident it scarcely needs expression. If the receiver of sundry pharmaceuticals would examine his goods with more thorough care, the annoyance of shortages would disappear, to the satisfaction of all interested.

WHEN THE PHARMACIST COMES INTO HIS KINGDOM.

Apropos of the recent action of extending in English medical colleges the course of medical instruction prerequisite for graduation to five years, a London pharmaceutical contemporary* considers at length the importance of this more perfect education of physicians, and its bearings on the future of pharmacy and pharmacists. The position is aptly taken that the medical profession, with its century or two of evolution, is far ahead of pharmacy, but the conditions of both callings are so similar, and the one depends so much upon the other, that the great advance which is now contemplated in medicine must materially influence the condition of pharmacy.

"The decision to extend the curriculum by a year, practically means that the training will be made 25 per cent. more severe, and necessarily the result will be fewer survivors, and these better fitted for the life struggle. It is with these survivors that the pharmacists of the future will have dealings, and it is reasonable to expect that the pharmacist should advance in a degree corresponding with the physician. The future outlook of the pharmacist is black enough. Without hope of better prices, without hope of more purely pharmaceutical work, the life seems scarcely worth living; but this extended medical curriculum throws a ray of sunshine on the prospect. It means better educated, more enlightened, more liberal-minded physicians — all the virtues, in short, which are opposed to the doctor's dispensary, and which will abolish the unsatisfactory system of bottle-doctoring, which is much too prevalent. It will be when the physician ceases to be a compounder of medicine that the pharmacist will come into his kingdom."

"Tis education forms the common mind, just as the twig is bent the tree's inclined," and with the stricter requirements for medical education now being enforced in the better colleges of the United States, there will develop a larger class of physicians who will demand the services of accomplished pharmacists, and with that demand will come the supply. We are not among those who believe that pharmacy cannot be successfully practiced in accordance with the highest aspirations of its scientific votaries, and there are many indications at present that the day is not far distant when pharmacy and medicine shall be held in equal esteem, and their mutual dependence and independence so established as to make their relations harmonious, and progress hand in hand practicable.

NOTES ON THE APPROACHING MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

The following notes of the approaching meeting of the A. P. A. are officially announced:

ARRANGEMENTS FOR TRAVEL.—The usual reduction of railroad rates for conventions has been secured, —one full fare going, and, on a certificate properly signed, one-third fare returning by same route. Reductions have also been secured by the several steamship routes. A pleasant return excursion by way of the Natural Bridge, Caverns of Luray, and Shenandoah Valley, may be had, while to those who may prefer any special route of their own selection there are numberless excursion tickets that are available from all sections of the Union. Fuller particulars will appear in the pharmaceutical journals for August and by circulars to members.

MEETINGS AND ENTERTAINMENTS.—Meetings will be held Monday at 3 p. m.; Tuesday, three sessions; Wednesday, two sessions; Thursday, two sessions, Friday, one session. By way of entertainments, the Committee will provide for a delightful carriage drive, a concert,and an excursion to Norfolk and Virginia Beach, with lunch at the latter place. The attractions of Fortress Monroe with its military drill, parades, concerts, etc.; fishing, sailing in the vicinity, the most interesting Hampden Institute with its training and technical schools for Indian and colored students; the Soldiers' Home, with its many features of interest; the old church at Hampden, and the many historic associations of the vicinity—all will make the coming meeting of the Association one of special attractiveness.

EXHIBITS.—The Committee of Arrangements announce that at a recent meeting held at Old Point Comfort they completed most of the necessary arrangements for the annual meeting to be held Sept. 8–12th.

An exhibit will be made of articles having interest for the fraternity, but as the only satisfactory room will not give over 1,000 square feet of space that can be utilized, the Committee suggests that exhibitors on this occasion select their more interesting, new or novel products, rather than make a general exhibit of miscellaneous articles. Tables will be provided of 3 feet width against the side walls of the room, and of 6 feet width in the central portion of the room.

Persons or firms desiring to exhibit will please make prompt application for space, stating the class of exhibits and amount of space desired. Address all such applications to Charles E. Dohme, Baltimore.

SUMMER DRINKS.

The American can occasionally learn something from the denizens of other countries, and one thing of interest to those who have been depressed by the recent torrid temperature is, to know what to drink and what not to drink to keep cool. Perhaps there may be a suggestion to the druggist who wishes to develop his soda-water trade, in the hints that are given on this question by the Calcutta *Medical Record*, which contains some interesting remarks upon the beneficial effects to be derived from non-alcoholic drinks in the height of summer. After remarking that the very bane of European existence in India lies in the habits of eating and drinking, physiological arguments are adduced to show that highly carbonized materials are deleterious in hot climates.

---

* *Chemist and Druggist*, June 14th, 1890.

"The custom of the Moguls, who for luxury have had no equal in Indian history, is a fitting example. Their drinks consisted of milk, sweetened waters, or sherbets prepared from subacid fruits—such as lemons, tamarinds, pomegranates, etc.,—flavored with rose or Keora essences, date juice, numerous vegetable tissues, and some infusions of glutinous seeds flavored with sugar and essential oils. These were often cooled with ice collected in pits, where it was stored during the winter months.

"The Oriental races suffer from few of the diseases which are common to the copious meat-eating, wine-drinking Europeans. For a hot day, a light vegetable diet is to be recommended, with a spare quantity of meat food and an abundance of cooling, non-alcoholic drinks. Ice is regarded as a necessity, and coffee, tea, and cocoa take the place of whisky-and-soda."

The use of aërated waters, prepared from pure and wholesome ingredients, and the admixture in them of the numerous fruit flavorings which abound in the tropics, are regarded with favor, as likely to offer a lucrative source of income to persons engaged in such trade, while also giving the European community very acceptable forms of summer drinks.

This suggestion has already to a certain extent been put into practice in this country, but there is still some uneasiness as to possible evil consequences resulting from the consumption of large quantities of iced drinks when the atmospheric temperature is high. As regards light diet and extreme moderation in the use of alcohol, however, the recommendations are admirable, and might well be followed here.

"HOME MADE ICE."

While not exactly a pharmaceutical topic, it may interest many pharmacists whose ice bill is their *bete noir* in making the soda water fountain pay, to know that there is a prospect of materially eliminating some of this expense.

We are told by the *American Druggist* that Prof. E. L. Nichols, who has given much attention to this subject, that in all probability the day is not far distant when brine, cooled below the freezing point of water, will be carried under the streets in pipes, as steam is now, supplying from central stations a very convenient substitute for ice in the domestic household. "By freezing in our own houses water which has been previously boiled, it will then be possible for us to avoid contagion from disease germs contained in the ice gathered from impure sources. The maintenance of the temperature of dwellings at 70 degrees Fahrenheit throughout the summer, will then be as much a matter of course as the warming of a modern house now is in winter."

Another writer, in the *Indiana Pharmacist*, states that the appliances necessary for making ice are: A powerful steam engine for working the strong pumps; large iron cylinders to contain the ammonia; a system of coil pipes; large vats to hold the cans in which the ice is formed, and, possibly, a storage room for holding the ice after it is made.

"The process depends for success upon the property possessed by ammonia of absorbing a great amount of heat when released from a heavy pressure. A large iron cylinder, containing an array of steam coils, is filled with ammonia, and steam is turned into the coils. This heats the contents, and the ammonia is driven over into a retort, where it is subjected to a heavy pressure. From here it is allowed to escape into a vast coil of pipes arranged in a number of great vats filled with strong brine; in these vats are a number of Galvanized iron cans, so arranged that they may be readily removed and replaced. Just before the ammonia is turned into the coil of pipes, these cans, which hold about two hundred pounds, are filled with distilled water, securely sealed, and placed in the vats. The expansion of the ammonia absorbs the heat from the brine, and would freeze it but for the fact that it is kept in constant motion by machinery. The degree of cold is so great that in about ten hours the water in the cans is frozen solid. They are lifted from the vat by machinery, and the ice removed and put in the storage-room.

"This ice is free from air bubbles, a perfectly solid cube as clear as crystal, and, being made from distilled water is the only ice that should be used for potable purposes. It is one-third cheaper than natural ice at the same price, as it melts very slowly, 100 pounds lasting fully one-half longer under ordinary circumstances, than the same quantity of natural ice."

THE SUPPLY OF OPIUM.

The indications are that the opium crop is considerably less this season than was anticipated. Our New York correspondent gives the latest news of the facts in this issue. A *resumé* of the condition of the market, and predictions for the future are given in a gossipy editorial in the *Oil, Paint and Drug Reporter*, in which we find the following worthy of note:

"The opium market has displayed more signs of life during the week just closed than for many months past. The new crop is now being, or is about to be, harvested, and from the most reliable reports obtainable, the output will not exceed forty-five hundred cases, which is much less than an average yield. Dealers here, accustomed to having the usual preliminary reports of a short crop contradicted by the actual results, have not been inclined heretofore to place full confidence in the estimates sent from Turkey this year. Recent events in the primary market have, however, disposed them to accept these estimates as at least approximately correct. Cables received from Smyrna recently reported an advancing market owing to purchases on account of parties in the interior. This is an unusual circumstance, and so far as we can learn has occurred before only in short crop years.

The news has excited some speculative interest here, and coming at a time when export orders from South America are in the market, has materially strengthened prices. Although it is reported that fully 200 cases have changed hands, we can trace actual sales of only half that amount. The late business has cleaned up about all the duty paid natural opium in the market, which, as indicated by the fact that most of the sales were for export, was not very much. The stock of natural opium remaining in bond is now small and in few hands. It is held at an advance of about fifteen cents per pound on the prices ruling a week or more ago. The manipulated stuff, imported and of domestic manufacture, is still in fair supply, but has advanced in sympathy with natural opium, although for some time past it has attracted less attention than the latter.

"On the whole, the situation at present is unusually strong. The world's supply on June 1st was about 2,500 cases. Deducting from this what has passed into actual consumption in the interim, we will start into the new crop year with a smaller stock than for many years past. If the crop turns out as small as expected, the total supply for the coming year will be about 7,000 cases, or only 500 cases more than is required by a normal consumption. Starting with these facts it is safe to predict a strong market throughout the coming season, with much higher prices than those prevailing during the past year.

"It has been rumored that the Turkish Government was about to increase the export duty on opium to the equivalent of a dollar per pound. The recent movement has been, by some, attributed in part to this supposed fact. Inquiry in the best informed quarters fails to discover any real ground for the report. It appears to be simply a revival of an old story, the only warrant for which at the present time, is the well-known poverty of Turkey."

DISTEMPER IN DOGS.

In these dog days, some experiments recently made may interest both those who are lovers and those who are haters of dogs, and suggest to pharmacists a possible addition to their professional occupations.

The *British Medical Journal* reports the following as evidence of the probable fact that inoculation or vaccination of dogs will protect against the virulence of a common disorder.

"Mr. Everett Millais, a son of the artist, has been investigating the origin of the disease of the dog tribe which is commonly known as distemper, and believes that he has succeeded in establishing the identity of a bacillus which is the cause of it. The disease is contagious, and after exposure to contagion an incubative period of variable duration follows; the symptoms which then appear are, dullness, loss of appetite, and fever; the nose at the same time becomes hot and dry, and a husky cough, constipation, or diarrhœa, is commonly present. The eyes and nose now discharge freely, the fluid being at first watery, but purulent later on. Finally, the animal emaciates rapidly, while the coat becomes hard and staring. In about three weeks, should no complication ensue, the dog begins to regain condition, and recovers. Unfortunately, complications generally do supervene, for few cases occur in which bronchitis is not a symptom. Pneumonia carries off a large number of those attacked, whilst jaundice, fits, and diarrhœa account for the death of many others. As sequelæ, we find chorea and paralysis.

"The mortality is very high, and 90 per cent. has been given as the loss from this disease. It is nevertheless doubtful whether the mortality is really so high, as it is a notorious fact that mongrels are peculiarly exempt from malignant distemper. In well-bred dogs, however, 90 per cent. fairly represents the average of fatal cases.

"The author, in the experiments made to discover the pathogenic micro-organism, inoculated several tubes of gelatin with the mucous obtained from dogs suffering from the disease. He succeeding in infecting puppies with the disease by inoculation with cultivation of the eighth generation. The cultivations showed two distinct bacilli, A and B, as well as a large number of micrococci. Bacillus A and the micrococci were found not to produce distemper, but bacillus B produced the diseases within the usual period. It was observed, however, that in the latter case the distemper produced was of a very mild description, this being due to the fact that the cultivations were made at a temperature of 60° to 70° F., which is much below the temperature of the dog (101.5° F.). The result of this was that the virus became attenuated, a fact which was experimentally proved by the inoculation of two valuable blood-hound puppies, and they only had very mild attacks, whereas it is the nature of the blood-hound to suffer severely when the distemper is on them. After a week the puppies were inoculated with a pure culture of the specific bacillus B, and to ensure infection they were placed in a kennel recently occupied by dogs suffering from distemper, but were now proof against the disease. The experiments were repeated on other dogs, with practically similar results, and the author arrives at the conclusion that the bacillus is the primary cause of the distemper, and the micrococcus the cause of the complication pneumonia, whilst the two when combined produce pneumonic distemper. In the fatal cases it is pneumonia that is the immediate cause of death."

After all, history repeats itself; preventive inoculation for distemper is by no means new, having been advocated in the sporting chronicles of the last century; and it has even found supporters in this century, in spite of the fact it was carefully investigated by Blaine, Youatt, and Mayhew, and unhesitatingly condemned. The conclusions of Mr. Millais, who is no pathologist, should be accepted with great reserve, since pneumonia, pleuro-pneumonia, bronchitis, and all diseases of the mucous respiratory tract in canines, are almost invariably, *per se*, denominated "distemper." The presence of a coccus (*pneumococcus*) goes for naught so far as the disease is concerned, as the malady when fatal terminates through pulmonary congestion and hepatization. Further, a purulent or other discharge from the nose necessarily contains *several different* bacilli. There is however a true distemper; a disease that is endemic and sometimes epidemic; also is *infectious* but not contagious; and that in its pathogenic relations is most intimately allied to influenza in man. But it is not more fatal to blood-hounds than other *Canidæ*, all things being equal; the death rate far from approaching 90 per cent. in well bred dogs, is scarcely 24 per cent.; and it is most amenable both as to prevention and relief by hygienic measures.

It certainly is high time a halt is called in the promulgation of, and giving prominence to, the pathological guesswork of non-pathologists and non-physiologists, who, stimulated by the temporary success of a French charlatan and pseudo-scientist, hesitate not to definitely decide questions, the fundamental principles of which they are in total ignorance, and that after long study by competent observers have failed to yield satisfactory conclusions.

COMBINATION AND CO-OPERATION FOR PHARMACISTS.

If we are to credit the gossip of our contemporaries, we must believe that there is at present wide dissatisfaction among pharmacists as to the established methods of carrying on the drug trade.

The July *Druggists' Circular* informs us editorially that:

> Gossip has again revived the report that all the prominent wholesale druggists in various parts of the country were about to organize a trust with a capital of fifty million dollars. The main object of such an arrangement would be to benefit the country by buying cheaper and selling higher. This plan would probably take five or ten million dollars more per year away from the profits of the retailers, but as they are a patient and long-suffering class, it is not known exactly what they would do about it. Such a combination would most likely break up the rebate plan, as they would hardly be satisfied to let small jobbers outside of the combination buy as cheaply as they did.
>
> It is very difficult to get correct information on this subject, as strong efforts are being made to keep the matter secret, and jobbers who have been approached on the matter are apt to say that they know nothing about it, or think that such a thing would be impossible, wild and visionary.

That the retailers are prepared to meet this proposed absorption of their business is apparent from an article published in the *Formulary and Druggists' Magazine*, entitled "Co-operation in Pharmacy," which we reproduce verbatim:

> In these days of Trusts, Monopolies and Syndicates some concerted action among druggists is required to relieve them of the burdens and oppressions put upon them by the grasping Octopi.
>
> Coöperation, which is itself an organization, is the most available means of combating these organizations and securing to druggists their legitimate rights, privileges and profits. Some attempts have been made in this direction, but they have been mainly unsuccessful because they lacked capital, were not conducted on a feasible plan, or because their management was inefficient or incompetent.
>
> It is now proposed to establish a Coöperative Company on the partnership plan, by which druggists shall contribute the capital and secure the benefits of the organization.
>
> It is well known that the profits of "Middlemen" in the drug business are much larger than in any other business, and that the difference in the quantity price, and the quantities usually required of an article by retail druggists, is much greater than in any other business. It is also a well known fact that the proportion of waste and labor in the manufacture of Galenicals is much greater in small than in large operations, and that everything that is used in manufacturing preparations can be bought considerable cheaper in large quantities than in the quantities usually required by the retail trade; and, furthermore, from the complicated nature of the drug business, but few retail druggists really know where to buy, or how to buy, or what to buy to the best advantage. It requires a long experience in the various departments of the business to perfect one in its details.
>
> This proposed Coöperative Company will undertake, under the direction of competent and experienced managers, to furnish all goods and articles usually carried in stock, bought by, or required by druggists, at a minimum of cost. It expects to have branches in all large cities for the economical distribution and delivery of its goods and products, and by advantageous purchases, and strict economy and thorough understanding of the business, to save its members an average of at least 25 per cent. on their purchases.
>
> The proposed capital stock of the company at the start will be $200,000.00 in Partnership Shares of $100.00 each, every share being entitled to a vote in the management of the concern and to all the advantages and privileges and profits that are secured to members. If necessary or desirable, the number of shares may be increased at any time by a vote of the members.
>
> We understand that 1,000 shares are already subscribed, and we presume the remainder will be taken in a short time as its advantages are apparent to all.
>
> There are hundreds of ways in which an organization of this kind will be of great benefit to druggists aside from the pecuniary profit to be derived. There are so many things that a druggist wants and does not know where or how to buy to advantage, and, sending an order to a jobber, who knows but little more about it,

he pays an exhorbitant price and then perhaps does not get what he wants. There are overstocks of articles, or those for which there has been a demand in a locality, which has ceased, leaving stocks on hand; these same articles may be in very active demand elsewhere, and could be handled by a coöperative association, and exchanged for other salable goods. There are various articles made by members of the association that might be marketed by the company, that otherwise it would not be practicable to introduce. There is need for just such an organization, and we think our readers will appreciate the opportunity offered.

If these announcements are credited, the contest between the wholesale fifty-million combination and the prospective stock company of retailers with a capital of two hundred thousand will be watched with interest.

Our medical friends in the past have had repeated attacks of the combination fever in order to relieve themselves of the so-called enormous profits of the druggists.

Some of our manufacturing pharmacists of the day ignore the wholesalers and retailers by selling direct to the consumer; not a few wholesalers, ambitious of the manufacturer's profits, attempt to manufacture on a more or less pretentious scale.

We have yet to see, however, that the trade channels, established by long usage, of the manufacturer, the wholesaler or the jobber and retailer, are likely to yield to modern innovations, such as the visionary often suggest but never execute successfully. There is room for all well equipped in the pharmaceutical business world, and if the various parts of the body pharmacal are to work to the mutual advantage of the whole organism, they must work in harmony, and none attempt to usurp functions for which their anatomy was not constructed. It is the shoemaker who sticks to his last that turns out the most shoes, and the druggist who sticks to his chosen business who achieves most. Success is not achieved by emasculating but by concentrating one's efforts on attainable ends.

THE ANCIENT APOTHECARY.

In the time of Queen Elizabeth the following excellent rules were given by Wm. Bulleyn for an apothecary's life and conduct.*

Fyrst serve God, forsee the end, be clenly, pity the poore; not be suborned for money to hurt mankynde.

His place of dwelling and shop to be clenly to please the sences withal.

To read Dioscorides, to know ye natures of plants and herbes.

To invent medicines, to chose by coloure, tast, odour, figure, etc.

To have his morters, stilles, pottes, filters, glasses, boxes, cleane and sweete.

That he neither increase nor diminish the phisician's bill (i.e., prescription), and kepe it for his own discharge. That he neither buy nor sel rotten drugges.

That he put not in *quid prv quo* (i. e., use one ingredient in the place of another) without advysement.

That he do remember his office is only to be the phisician's cooke.

That he use true measure and weight.

Original Articles.

PRACTICAL PHARMACY.

COMMENTS ON CURRENT TOPICS.

BY H M. WHELPLEY, M. D., PH. G.

One of the principle subjects for current comment at the present season of the year is the warm weather. I find some drug-stores where the proprietors have prepared for the increase in temperature, and keep the store room as cool and pleasant as possible. In such places we find the soda-fountain clean and looking as cool as an ice-berg. It is the kind of a store the customers flock to for not only fountain drinks, but all kinds of goods handled there. What a contrast some of the other stores present? They are not only warm and close, but have added to all this a dirty soda-fountain where the flies hold one continuous convention. And the strangest part of all is that druggists who manage such uninviting establishments wonder why it is that their competitor across the way has such a run on soda water and fills so many prescriptions. This life is in the long run a game for the survival of the fittest.

I have met with doctors who seem to feel that it almost a disgrace to be a "druggist;" and druggists have passed my way who looked upon it as almost a sin to be "doctors." Thus, between the two, a person who has studied and practiced both professions may find himself in an rather unenviable position. I believe this lack of harmony comes from individual idiosyncrasies bordering on cerebral deficiencies. My remedy is a radical one, and consists in preventing such a class of young men from studying pharmacy or medicine. The remedy can be administered by the colleges of pharmacy and medicine, and those who engage drug-store apprentices or office medical students. Select only the best material and then train it well.

It is not every physician any more than it is every pharmacist that realizes the widely different standpoints from which the doctor and the druggist each study therapeutics. A druggist learns the therapeutical actions of remedies for the purpose of understanding their effect when given in doses bordering on the poison line. He looks at them solely from the view of their power to alter the condition of the system. He most eagerly studies those which are very potent in action. Thus it is that the druggist guards against accident from over-doses in prescriptions. He soon learns what substances are so virulent that a record of sales must be kept in a Poison Register. To him castor oil and sulphate of magnesium are both purgatives to be sold as such to whosoever may call for them. But croton oil is a poison and must be handled with care. In other words the druggists study the pharmaco-dynamics of remedies, or the power they exert on the system. The physician starts out with the patient and studies the disease. The treatment comes next and calls for remedies. These are looked over in classes; not as harmless and poisonous but according to the functions which they disturb. Perhaps it is decided that the contents of the intestinal canal must be removed, and for that purpose the doctor looks over the list of medicines which increase the stool. To him castor oil, sulphate of magnesium, and croton oil, are three cathartics; but they are more than this. Each has a special method of acting as a purgative. He studies the case, and the remedies, and then selects the one most suitable to the circumstances. This is therapeutics, and when the druggist studies it he does so as a physician and not as a druggist.

---

* Jeaffreson's "Book about Doctors."

Poor indeed is the doctor in his store of knowledge who does not possess some pharmaceutical education, but the pharmacy he studies is not the pharmacy of the drug store. The doctor must know that rhubarb comes in a powdered form. He should understand the medicinal constituents sufficiently to know what it can be combined with when given as a powder. It is greatly to the physician's advantage to remember the list of preparations into which rhubarb enters, so that he can select from them. Pharmaceutical education must teach him what substances are not miscible with syrups, so that he will not prescribe the syrup of rhubarb with agents which cause an unsightly or undesirable mixture.. The same can be said of the entire list of pharmaceutical preparations. To know the composition of the aromatic syrup and other compound preparations, is quite necessary. All of this the pharmacist also learns; nor does his work stop here. The educated pharmacist learns to identify a piece of rhubarb and judge of its quality, not from experiments as to its therapeutic action, but from its organaleptic properties, aided if necessary by chemistry and the microscope. He must go further and study how to preserve the drug, and then how it can be made up in the various preparations. He must judge, as far as possible, as to the quality of the preparations, and look to the methods of preserving them. The druggist is also interested in the commercial side of the medicines; he studies their habitat and the method of gathering them. This sometimes enables him to look ahead to the prospects of a crop being ruined by storms or drouth. Or again, its harvest may be prevented by war, or famine, or pestilence. Thus goes the course of study for a druggist while the doctor is feeling his patient's pulse or inspecting the tongue.

The gross injustice of a pharmacy law which permits physicians to register without an examination or presenting any proof of proficiency other than a medical diploma, is evident to anyone who has studied the subject at all. There are many points to be raised against the law, and some of them are often presented. One argument, which is usually overlooked, is based on the small amount of remedies which any physician prescribes. A doctor at best does not prescribe, handle, or even think of a fraction of all the remedies kept in a drug-store. Some doctors say that they should know all about dispensing the medicines that they prescribe. Granted that they should and do possess this education, it does not make them pharmacists or competent to run a drug-store. A certificate of registration as a pharmacist entitles the holder to conduct a store in any section of the State, and asserts that he is qualified to handle all the substances sold in a pharmacy. A physician who might be perfectly competent to dispense his own prescriptions could fail to fill the first one presented by another doctor, or be puzzled by the first horse-doctor that came in the store.

The same argument applies to the druggist who has a limited experience in some one store or locality, and can get along well where he is at home, but would lose his position the first day in another store or part of the State. This class of candidates complain because the Boards of Pharmacy show them specimens of drugs they never handled, and ask questions that never presented themselves in every-day life. That is just what the Boards should do, for a registered druggist can roll up his document and travel all over the territory within its jurisdiction, even if he has had no experience outside of a very small store.

Each year finds a greater number of pharmacists resigning their positions as drug clerks, or placing their stores in the hands of assistants, while they study medicine. During the present year there has been at least a score of graduates in pharmacy, or other pharmacists with recognized qualifications, who were thus pondering over the secrets of medical sciences in St. Louis. Several of them have expressed the opinion that the practice of medicine cannot be any less remunerative than compounding prescriptions. I fear this is because they have not thoroughly canvassed the field occupied by young medical practitioners. I am firmly convinced that every young man who intends becoming a medical student should by all means listen to a course of lectures in a college of pharmacy, and if possible, qualify and graduate as a pharmacist. The time and money will have been well spent. However, the relative opportunity of success in life as a pharmacist and as a physician are about equal and balance each other. There are so many more doctors than druggists that we find more prominent and successful members of the former profession. However I doubt very much if the average druggist would climb higher the ladder of fame and fortune in this world as a physician than he will by following his first love, the drug business. A person should take into consideration personal qualifications and opportunities in selecting an occupation, and not be guided too much by the tastes and successes or failures of others. The question is not

"How many doctors are successful?" but "Will I be likely to meet success as a doctor?"

An item of consideration for the young man of limited means who feels that he can succeed either as a physician or a pharmacist, is the relative cost of the two courses of study. The determined person who starts out on the road to pharmaceutical knowledge, can obtain the first few years of experience in a store where a part, if not all, of his living expenses will be paid. When college lectures begin he continues to earn something, and during the first vacation may lay by funds for the senior year. As soon as he graduates, he is sure of a paying situation until he can find something better. Thus it is that money is earned all along, and something definite ahead as soon as college days are over. How different is the lot of a medical student! He may teach school during the summer when he should be studying anatomy, and by that means earn a little money, but never a cent from his profession until after graduation. And then how long it frequently is before a living is made! The odds are all in the favor of pharmacy. An old practitioner once told me that he never regretted having studied medicine until he graduated and realized that perhaps he would never be able to earn his *mica panis* and chloride of sodium by practicing medicine.

I cannot close these rambling comments without a word regarding the metric system. I desire only to remind your readers that it will be the official system as soon as the revised Pharmacopœia is ready. Now is the time for druggists to revise their laboratories and provide a set or two of weights and a few graduates. To use them will be to admire the system.

BOTANY AND MATERIA MEDICA.

GOANESE IPECAC.

(*Naregamia alata*, W. & A.)

Its Action Compared with that of Cocillaña.

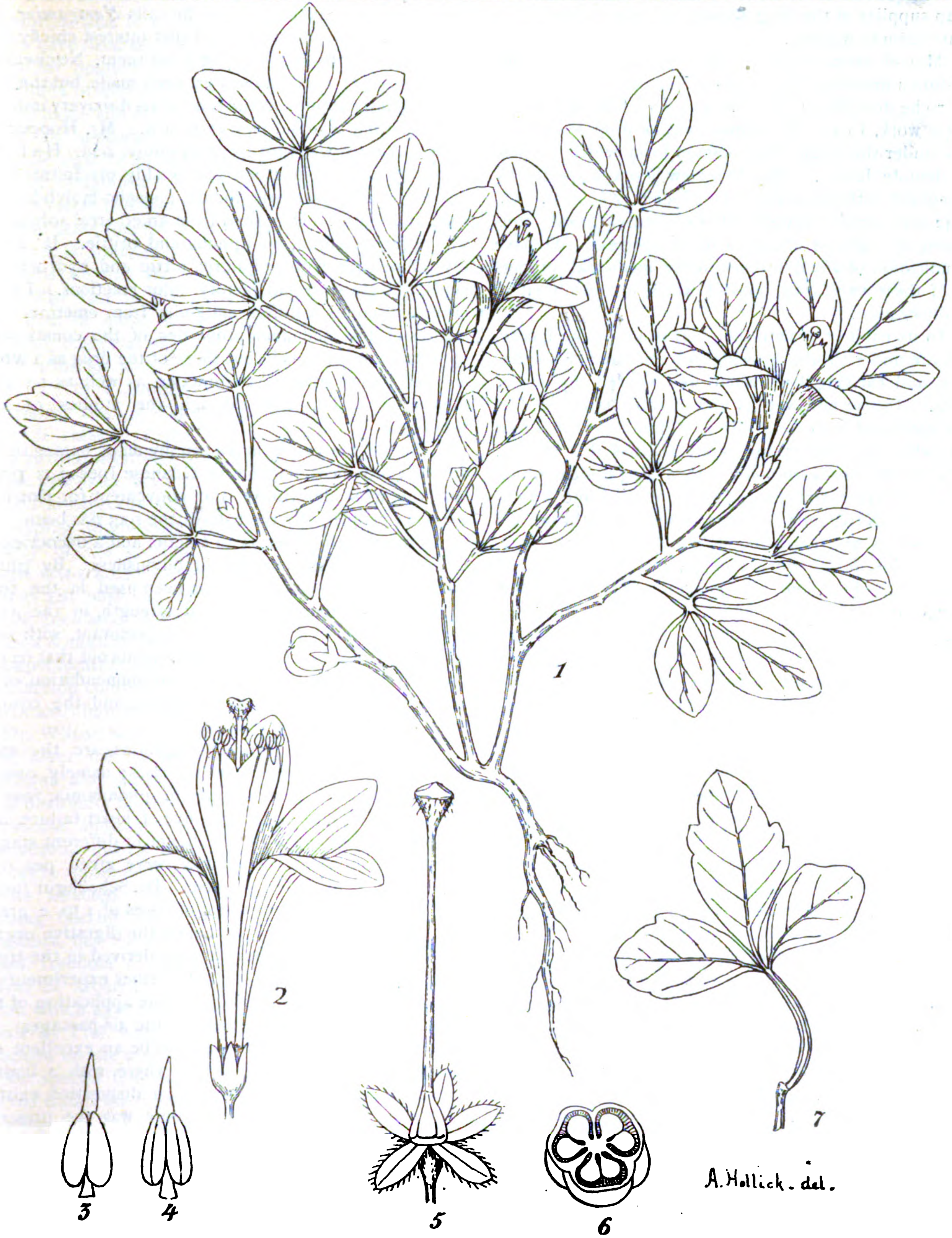
BY H. H. RUSBY, M.D.

The serious shortage in the ipecac supply that commenced some years ago, and exists up to the present time, resulted in stimulating search for a suitable substitute, and with results by no means disappointing. Plants possessing properties in a general way similar to those of ipecac, are not unknown in the Brazilian forests. Indeed, quite a long list of species could be compiled which are known by the natives, or have been found by settlers and travelers, to possess emetico-expectorant properties; and several of them, notably the *Psychotria* (*Cephaëlis*) *tomentosa*, act in a manner almost identical with ipecacuanha, and in all probability contain emetine as their active constituent. But in the case of all these plants, there exists the same difficulty which we find in the case of ipecac; they are to be collected only in the more or less remote or inaccessible parts of a vast region, where labor is not only scarce, but difficult to enlist, easily finding employment in other profitable and more congenial occupations. As a matter of fact, ipecac, difficult and costly of collection as it is, is doubtless less so than any of the Brazilian roots which have been from time to time proposed to substitute for it. To other localities, therefore, we must look, if anywhere, for a cheap and reliable substitute-supply. The utilization of substances possessing emetic properties is easy enough, as our Materia Medica both organic and inorganic abounds with them; and expectorants of one sort or another are little less abundant. But to find a drug possessing such a combination of nauseating, expectorant, and tonic properties as has given and secured to ipecac its surpassing hold upon the confidence of physicians, is an endeavor likely to meet with many failures before scoring a success.

Two such substances, both of vegetable origin, and botanically closely related, have been proposed and have been found to meet at least most of the requirements of the case.

Cocillaña (Guarea, sp.) has already received a somewhat extended notice in this Journal, and Naregamia, the subject of the present sketch, was briefly referred to in a recent number. A most noteworthy fact in this connection is that these two drugs, examined independently by distinct investigators, in regions most distant from one another, should have developed clinical histories which might also be interchanged without doing violence to the facts in the case. Cocillaña was first studied physiologically by myself, without knowledge of its relations to Naregamia, and indeed, under the impression that it pertained to a different natural order. Although very superficial, this examination was sufficient to indicate the chief peculiarities of its action as subsequently established by extended clinical investigations on the part of Dr. David D. Stewart of Philadelphia, Dr. R. W. Wilcox of New York, and, more recently, by Dr. L. H. Mettler. At about the same time Prof. David Hooper, at Ootacamund, India, was investigating the composition and history of the Naregamia; and its clinical study has since been pretty carefully pursued by Dr. Stefan Schoëngut of Vienna. A comparison of Dr. Schoëngut's results, reviewed below, with the reports upon cocillaña, will reveal the striking similarity, surprising even when we consider the association of the plants in neighboring tribes of the same natural order.

Naregamia alata was described by Messrs. Wight & Arnott, in *Prod. Fl. Pen. Ind. Or.*, I, 116. Since that time it has been collected by many botanists and its accredited range has been extended over a large part of western India. Growing thus abundantly over a wide range, and in a country where labor is notoriously cheap, we have a reasonable guarantee of abundant, regular and



Explanation of Cut.—*Naregamia alata*, W. & A., after Wight in *Ic. Plant. Ind. Or.*, vol. I, $\frac{20}{101}$. *Fig. 1*, Flowering plant, natural size, rather small specimen. *Fig. 2*. Flower, showing petals and staminal tube. *Fig. 3*, Anther, back view. *Fig. 4*. Anther, front view. *Fig. 5*, Calyx, Ovary, Style, and Stigma. *Fig. 6*, Ovary cut transversely, showing three cells, and two collateral ovules in each (the above figures much enlarged). *Fig. 7*, Specimen of lobed leaf, natural size, from herbarium of Parke, Davis & Co.

cheap supplies of the drug should its importance in the future seem to warrant.

Miquel seems to have taken special note of two leaf-forms presented by the plant, for in *Pl. Hohenack*, No. 79 he describes a *N. dentata*. As I have not access to this work, I can only surmise that he proposed to separate under this name that common form which possesses dentate leaves. But this view is not supported by subsequent authors, as Sir J. D. Hooker, *Fl. Brit. Ind.*, I, 542 says simply "leaflets entire or obtusely lobed," thus classing all together under the same species. We have no indication of any difference in the medicinal properties of these two forms, both of which are exhibited in our illustration.

In its habit of growth the plant is not unlike ipecac. Both are under-shrubs, growing in humid and rich situations, and thriving best when well shaded by larger plants. Ipecac however, is considerably larger and is more erect and branching. It is seldom less than a foot high, while the Naregamia rarely reaches that stature. Ipecac grows most commonly with a single stem which freely develops horizontal and very crooked and knotty branches. Naregamia on the other hand throws up several stems which rise obliquely and branch sparingly, the branches being more oblique, but dropping when they become long, and are generally shorter and less crooked than those of ipecac. These branches are mostly bare except for a cluster of alternate-crowded leaves at the apex. The new growth at this point is more or less pubescent; elsewhere the plant is smooth. The leaves are trifoliolate and borne on conspicuously winged petioles of nearly the same length. The leaflets are narrowed almost into a winged petiole at the base and are about an inch long by ¾ of an inch in width. Its flowers are large for the size of the plant, funnel shaped and dull white. A more detailed and technical description is appended.

The roots, with the short stems deprived of their leaves, are used, and it is in the thick bark that the medicinal properties reside. In the general appearance of the roots the resemblance to Ipecac is still further borne out. They are creeping, tortuous and of an uneven surface, of a rich brown color, becoming greenish above, and possessed of a thick friable bark occupying about ⅓ of their diameter. Hooper describes the middle layer of this bark as containing thin walled cells and being loaded with a yellowish oil, while the inner one contains starch, in "minute rounded granules, about equal to those of rice starch." The woody zone is yellower than that of Ipecac. In a mass, the drug has a slight and not agreeable odor which becomes strong and nauseating when the drug is powdered or agitated. The taste is almost equally disagreeable.

The only account of its composition that we have seen is that of the examination made by Prof. Hooper. He has extracted an abundant fixed oil, a wax, asparagin (?) and an alkaloid which he calls *Naregamine*, but no tannin. It is in the alkaloid that interest chiefly centres, as it is probably the active constituent. No chemical examination of cocillaña has yet been made, but the preliminary tests applied at the time of its discovery indicate that this same alkaloid may exist in it. Mr. Hooper extracted *Naregamine* with dilute sulphuric acid. He found it readily soluble in ether, and readily precipitated by tannin, potassio-mercuric iodide, phospho-molybdate of soda and iodine. Deposited from an ethereal solution it was slightly colored, amorphous and brittle. It forms crystalline salts with sulphuric, nitric and hydrochloric acids, but gives no satisfactory color reactions. In the latter particulars it differs markedly from emetine. No studies of the medicinal properties of the constituents seem to have been made, but those of the drug as a whole are well known in domestic practice, as well as to physicians in India, and through the studies of Dr. Schoëngut.

To the natives it is known by many names in the different provinces, but that of Goanese Ipecac is probably the most descriptive and convenient for English-speaking people. By the natives, the root has been used in 12- to 18-grain doses as an emetic, and a decoction of it, with the leaves included, in biliousness. By physicians of the same country, it has been used in the form of a tincture, about 16-per-cent. strength, in the same doses as ipecac, as an emetic and expectorant, with very satisfactory results. Dr. Schoëngut points out that in two trials, whose results have led to a recommendation of its use in dysentery, opium was combined, and the conclusions are therefore not reliable.

Dr. Schoëngut's own investigations are the most instructive. He applied it in 24 cases; namely, one of dysentery, one of pleurisy, two of pneumonia, four of emphysema, five of bronchitis, five of heart-failure, and seven of tuberculosis of the lungs in different stages. One to 3 grammes of the tincture were given per day, in doses of $\frac{3}{10}$ to $\frac{6}{10}$ of a gramme. Dr. Schoëngut found the tincture to act as an emetic in doses of 1 to 2 grammes. No styptic or other action on the digestive organs was observed, and no benefit was derived in the treatment of dysentery. He says: "Further experiments in this direction were suspended, and the application of the remedy was confined to diseases of the air-passages. In such cases Naregamia has proved to be an excellent expectorant, and especially in cases where, with a limited amount of secretion in the bronchi, a disposition existed to extreme coughing, but where there was the presence of a tough and tenacious sputum which embarassed the elimination of this undesirable factor. In one case of bronchial catarrh, which from time to time betrayed asthmatic symptoms, Naregamia rendered great service. Compare this conclusion with the statement made by Dr. Mettler as the result of his studies of cocillaña. "In the chronic forms of bronchitis, when there is an expectoration that is scanty, thick and tenacious, the best results have been secured and positive cures obtained." A similar opinion is thus expressed by Dr. Stewart: "Cocillaña is serviceable in bronchial catarrh, especially the sub-acute and chronic forms, when accompanied by scanty or moderately profuse secretion, whether the cough be tight or loose. It seems to possess the power to render cough less frequent and difficult, and the bronchial secretion less viscid and more easily expectorated."

The same conclusion is thus expressed by Dr. Wilcox: "It is probable that in sub-acute and chronic dry bronchitis we find the larger field for the use of cocillaña. The fact is that its expectorant effect is surer than that of either apomorphine or ipecacuanha in liquifying bronchial mucous."

Continuing with the report of Dr. Schoëngut we quote: "In a number of cases of heart difficulty, comprising two of fatty degeneration of the heart in which catarrh of the air passages existed, Naregamia proved itself very serviceable. In the case of one patient with fatty heart, after several days use of Naregamia the objective symptoms of catarrh disappeared, the rasping diminished materially, and although the quantity of the sputum at first increased, its final amount was scarcely discoverable." This secondary result was also observed by the above investigators in the case of cocillaña. Dr. Mettler says: "At first cocillaña acts as a stimulant expectorant, for although the cough and expectoration are both at first somewhat increased, as the action continues it becomes sedative, and by overstimulation diminishes the expectoration." Dr. Stewart and Dr. Wilcox both found the same tendency to a decrease after the primary increase of secretion. Dr. Schoëngut also states that the tincture of Naregamia has a decidedly beneficial action in cases of pulmonary emphysema, and that it seemed to aid the expectoration in pneumonia during the period of resolution where the râles were prominent and frequent. In the case of patients affected with dyspnœa he found that the breathing became less difficult under the influence of Naregamia, but the effects seemed to be due to an increased freedom of expectoration and the consequent removal of accumulated secretions from the lungs, an opinion which agrees with the results of experiments on animals by Prof. von Basch, showing that it has no direct action on the respiratory centres.

No special influence on the circulation has been observed under the influence of Naregamia, only a short and irregular increase of pressure being noted after large doses reaching up to 5 grammes. This conclusion again agrees with that reached by the present writer in his preliminary investigation of the action of cocillaña. Dr. Wilcox also says: "It cannot stimulate the respiratory centre as strychnine does. It is ordinarily safer in any stage of acute bronchitis than pilocarpine, because it does not depress the heart's action," and "the rhythm of the respiratory act is affected only so far as freer expectoration lowers the respiratory rate." And also: "Even under the administration of full physiological doses the fulness of the pulse is not changed."

When we come to consider the effect upon the digestive tract, we note a difference in the action of the two remedies. A distinct laxative effect has been noted from the administration of cocillaña, while Dr. Schoëngut says: "Naregamia does not exert any perceptible effect upon the digestive organs."

A possible difference is also indicated by Dr. Schoëngut's conclusion that "no toxic properties reside in the remedy;" while fatal cases are said to have followed the administration of large doses of cocillaña. It is possible, however, that the administration of very large doses of Naregamia may yet be found to produce poisonous symptoms.

As regards their emetic effect all observations agree in attributing the same kind of vomiting, and produced in the same way, by the two drugs. At the same time full doses showed a disposition to produce slight dull headache in the case of Naregamia, just as I have recorded in the case of cocillaña.

It is worthy of note that Dr. Schoëngut found no special beneficial effect in the treatment of tuberculosis by Naregamia, his statement being: "The results could not be considered as commendatory;" while cocillaña has been found to possess marked value in diminishing the night sweats of phthisis.

The above comparison, although entered into somewhat in detail, because an accurate knowledge of the comparative actions of these two drugs seems to be of sufficient importance, is yet only indicative of the general bearing of the articles from which we have drawn. The similarity noted will be greatly strengthened if the reader will take the original articles and compare them at length. Below is appended a generic description of Naregamia, translated from the *Genera Plantarum*, and a specific description of our plant.

Naregamia, W. & A.—Calyx 5-fid, deciduous, imbricated. Petals oblong-spatulate, free contorted. Stamen tube elongated, cylindrical, inflated at the apex, 5-crenate; anthers 5-terminal, setose-appendaged at the apex. Disk annular. Ovary ovoid, 3-celled glabrous; style filiform, stigma capitate. Ovules collateral, two in each cell. Capsule sub-globose, 3-lobed, 3-celled, loculicidally 3-valved, the valves separating from the 3-winged axis, the cells 2 seeded. Seeds pendulous, curved, teretish, laterally narrowly 3-winged, the base and apex truncate, the hylum ventrally elongated, the testa thick, crustaceous, rugose, the tegmen membranaceous, the albumen fleshy; embryo slightly curved, cotyledons plane, equalling the narrow oblong, terete radicle. A small branching shrub. Leaves alternate, 3-foliolate, the leaflets cuneate obovate, obtuse, entire or sinuate, the petiole narrowly winged, peduncle axillary, solitary, 1-flowered.

Species 1, inhabiting the East Indian Peninsula.

This genus is placed in the first tribe, Melieæ, while Guarea is in the second tribe, (Trichilieæ), of the Meliaceæ, these tribes differing in the possession by the first of albuminous seeds, with the cotyledons plano-convex, while in the second the seeds are exalbuminous and the cotyledons usually conferruminate.

The following brief specific description is given by Hooker in the *Flora of British India*, Vol. I, p. 542.

> "Leaflets sessile, cunate-obovate, quite entire or obtusely lobed, common petioles winged.
>
> Western Peninsula, or the Western Ghats from the Concan southward. *Distrib.* Angloa (a pubescent form)."

MONTHLY REVIEW.

One of the strongest objections to the use of our small fruits is the irritating action of their seeds upon the digestive tract, thus rendering the use of strawberries, blackberries, raspberries, figs, and even mulberries, almost or quite impossible to many susceptible persons. A prominent druggist in the city where the writer resides, remarked recently at a medical meeting, that he made a large portion of his profits during June from customers ill from eating strawberries. The perusal of a pamphlet which has just come to hand, leads to the hope that one of the progressive steps of the next generation may entirely remove this evil. "Seedless Fruits" is the subject of an extensive paper by Prof. E. Lewis Sturtevant, constituting the fourth number of the first volume of the *Memoirs of the Torrey Botanical Club*. The paper comprises 45 pages, and is to be obtained by remitting 75 cents to the editor, Dr. N. L. Britton, of Columbia College, New York.

Four pages are devoted to preliminary considerations in which it is shown that as seedlessness tends toward extinction, it is most likely to occur among cultivated plants. To this rule *Acorus calamus* is a notable exception, being most widely distributed but rarely fertile. Luxuriance of vegetation is frequently associated with deficient reproduction. Thus in the tropics of Mexico, wheat seldom produces ears; and, indeed, the present writer has been much impressed with the deficiency of reproduction as compared with the luxuriance of vegetation in a tropical flora in general. The sweet potato and the sugar cane are mentioned by Mr. Sturtevant as striking illustrations of plants that scarcely ever seed. Hybridity is named as an important cause of sterility. The curious fact is referred to, that mechanical irritation of the stigma will often cause the development of the ovule, and eminent authorities are quoted as believing that perfect seeds may, by such influences, be caused to mature without any process of fertilization. It is stated as an almost uniform rule that quality in a fruit improves with its development of seedlessness. Upon this point the author's conclusions are thus stated on the last page:

> In the above list of sixty-one species, we find quality either stated or inferred, in varying degrees, in the case of thirty-three; in the remaining twenty-eight, either no, or insufficient, mention. It is more than probable that in every case of high development—for thus we class horticultural selections—the seed is changed in some respect from the seed of the wild type, either recognizable in reduction of number, size, weight, or fragility. In many instances, such as the melon and tomato, the orange and the peach, and many others, this is effected through correlations, the horticulturist being indifferent to the seed, but keen for the quality of juiciness, tenderness, and flavor. It seems a legitimate field for horticultural effort, to experiment with seed from nearly seedless forms, or with seed which is more fragile or seemingly imperfect, in the endeavor to produce increased quality, as also with seed from unripe fruit.

The remaining 40 pages are devoted to an alphabetical enumeration, with presentation of testimony and interesting remarks, of the 61 striking instances of seedless fruits, among which we find mentioned varieties of the following: Apple, barberry, cherry (partially), cucumber, currant, mango, medlar, mulberry, orange, pear, persimmon, pomegranate, strawberry, and raspberry (partially). We note many references to varieties of the banana growing in Asia and Africa as containing large stony seeds, but the fruit stringy, strong and worthless. Captain Cook is quoted as authority for the statement that one of these seedless varieties is used by the natives of Batavia as a remedy for the "flux."

The *Medical Age*, May 26th, page 239, reprints a paper by Dr. Wm. Gemmell in the *British Medical Journal* on the use of Ouabaine in whooping-cough. "Ouabaia" is the native name of a plant whose juice is said to be used in central Africa as an arrow poison. Ouabaine is its alkaloid, and is described as occurring in white, transparent, colorless, rectangular crystals. It is slightly bitter, dissolves with difficulty in cold, and much more readily in hot water, but is altogether insoluble in chloroform or ether, and only slightly soluble in alcohol. Warm partly concentrated alcohol is its best solvent. A hypodermic injection of $\frac{1}{60}$ of a grain is considered as likely to prove fatal to a man. Dr. Gemmell finds $\frac{1}{1000}$ of a grain at three hour intervals to be the proper dose for a child of five years. In exceptionally severe cases, however, he increased this dose to $\frac{1}{250}$ of a grain. He concludes that the drug is of marked benefit in whooping-cough in all stages. In the first stage it cuts short the attack; in the second it reduces the violence and frequency of the cough and diminishes the number of whoops; and in the third it hastens convalescence in a remarkable manner. It is not cumulative, can be suddenly stopped and as readily resumed. It may be given alone or in combination with potassium bromide or chloral. He thinks the best method of preparation is to dissolve in distilled water so that one minim represents $\frac{1}{1000}$ of a grain. Ouabaine reduces temperature, pulse and respiration, and the danger is from paralysis of respiration as well as of the heart. It promotes the action of the skin and kidneys, apparently regulates the movements of the bowels, improves the appetite and the general physical condition, and promotes sound sleep.

Dr. L. H. Mettler contributes a valuable paper to the *New York Medical Journal*, April 5th, 1890, on the use of Cocillaña as an expectorant. His conclusions, which have been reached quite independently, confirm very closely those reached by Dr. Wilcox and published in the same journal some months since. Dr. Mettler concludes that Cocillaña is a most valuable addition to our Materia Medica; that it most nearly resembles ipecac, but its action is sufficiently distinct to constitute it a remedy *sui generis*. He considers 10 to 15 drops of the fluid extract every three or four hours an average dose. Nausea is the proper indication that the maximum dose for a single individual has been reached, and he has sometimes ordered the patient to increase the quantity until this result was obtained. He considers the best time of administration in cases of bronchitis as being after the subsidence of the acute inflammatory symptoms. In the chronic forms of bronchitis, when there is an expectoration that is scanty and thick, the best results have been secured and positive cures obtained.

Prof. Dujardin-Beaumetz, in a contribution entitled "New Therapeutic Agencies," published in the *Therapeutic Gazette* for May, p. 289, highly praises the infusion, strength 1 to 150, of Haplopappus (Hysterionica) Baylahuen in the treatment of chronic diarrhœa, particularly that of tuberculosis. He finds that it checks this class of fluxes when positively resisting other treatment. Its abundant resin makes it of service also in the treatment of uræmic and pulmonary diseases, and the tincture may be advantageously employed as a dressing for wounds. Dujardin-Beaumetz deplores the lack of supplies of this drug in France. In this respect our people are more fortunate, as Messrs. Parke, Davis & Co. have recently made large importations from Chili.

Piligan is the native name of another Chilian plant which has been the subject of experimental study by this distinguished clinician. Besides the highly purgative resin, this plant, which belongs to the natural order Lycopodiaceæ, contains a poisonous alkaloid, *Piliganine*, which is strongly emetic. Piligan has not yet been brought well into subjection as a therapeutic agent.

Dr. John Westlake, of Elmira, N. Y. writes (*Medical Age*, p. 225) in high praise of Pichi, stating that he considers it the best remedy extant for bladder and urethral troubles.

Caffeine, as well as the several important vegetable products from which it is obtained, is receiving a remarkable degree of attention at the present time from a number of learned and able investigators. Among others, Prof. Reichert, *Therapeutic Gazette*, p. 294, after briefly reviewing the results reached by other investigators, details a number of carefully conducted experiments, from which it appears that the character of the effects of this drug depends in large part upon the size of the dose or its repetition. The ordinary result is an increase in the pulse-rate, with a slight and very brief increase, followed by a diminution, and afterward by a slight and temporary rise, in blood-pressure. This increased pulse-rate he finds, by another series of experiments, to be due to a depression of the inhibitory centres both in the medulla and in the heart itself. But upon the heart muscle there is produced a slight stimulant action. Dr. Reichert says: "It is very evident from this that the actions of Caffeine on the pulse-rate are of much complexity, small doses tending to diminish the frequency by a stimulation of the inhibitory apparatus, and large doses to cause an increase by a depression or paralysis of the inhibitory apparatus, and to cause a diminution by direct depression of the heart. Accordingly, it is obvious that we have at times opposing factors in action; hence, whether an increase or a diminution will prevail, will depend upon the relative intensities of the conflicting forces." Upon the muscular walls of the vessels he finds it acting primarily as an excitant and secondarily as a depressant. With large doses, this otherwise secondary result may occur primarily. The two final conclusions are important.

"Caffeine diminishes the heart's efficiency for work, arrests it in diastole, sometimes induces sudden paralysis, and is, therefore, a cardiac depressant.

The asserted stimulant action upon the circulation is, doubtless, subjective, and dependent upon an excitation of the cerebral centres."

Dr. Germain Sée, in writing upon the action of Caffeine, considers it clear that "It has no mysterious property of taking the place of food; it takes the place only of the general tonic excitation produced by the ingestion of food," and "hard work is obtained only at an extravagant expenditure of the organism." It is therefore purely a nervine. But the Doctor would by no means have it understood that it is a remedy to be despised, as he finds it of the greatest value as a stimulant and supporter in emergencies and for short periods of time.

Caffeone, the empyreumatic oil of coffee, has also been receiving its share of attention, and the Editor of the *Therapeutic Gazette* gives us (June, p. 399) a most interesting review of the observations concerning its action.

On page 427 of the same journal is an extract from the *Pharmaceutical Journal and Transactions* upon the nature of Ethoxycaffeine, a product prepared by treating caffeine with large excess of bromine, added gradually in small quantities, the mixture being kept cool, and then adding to an alcoholic solution of the resulting monobromcaffeine, freed from excess of bromine, metallic sodium in small fragments sufficient to combine with the bromine, and concentrating by boiling.

Dr. E. C. Seguin reaches a conclusion concerning the effect of the use of Coffee upon the digestion, radically at variance with that which has been generally accepted. He believes that its injurious effects are due, not to the effect of the coffee itself, but to fermentation of the substances, such as sugar and milk, added in its preparation. So far from believing that the action of coffee is inimical to perfect digestion, he has met with the best results from administering it to dyspeptics; but he requires his patients to take it without milk, cream. or sugar, and with very little bread or other farinaceous food; they are to take one large breakfast-cupful, made strong and without boiling, at breakfast.

Pittonia, Vol. 2 part 8, is just to hand, and as usual full of the results of the editor's critical studies. In the leading article, Analogies and Affinities, iii, attention is called to the fact that the genus *Allium* as at present accepted comprises groups of such diverse structure as would in all probability be looked upon as representing a number of distinct genera, but for the onioney odor in which they all agree, and which appears to be the chief argument for grouping them in one genus.

Under the title "On Some North American Ranunculi," some interesting facts concerning well known species are contributed, and a new species, *R. rugulosus*, is described. *R. obtusiusculus*, Raf., is found to be an older name for *R. ambigens*, S. Wats., and *R. ovalis*, Raf., for *R. rhomboideus*, Goldie.

Mr. J. G. Lemmon describes two new species and one new variety of Californian plants, and Prof. Greene describes three new species and varieties.

Dr. C. F. Millspaugh presents one of his characteristically valuable contributions on the Euphorbiaceæ, which is also distributed by the author as a reprint. Six new species and varieties are described.

There are besides interesting reviews of the old *Florula Bostoniensis* of Bigelow, and the recent edition of *Gray's Manual.*

Panbotano, or Pambolano—for these names as appearing in current literature are found to be synonyms—is said to be a "bark" possessed of an efficacy in intermittent fever which is not even second to cinchona bark. The source of this drug has been stated to be* the bark of a species of Leguminosæ that has been cultivated for some time in France, although in the same article said to to be a Mexican plant.

Many inquiries having been made recently regarding the probability of supplies being forthcoming to enable tests of its merits to be made, and we have ourselves been in communication regarding the drug. We find in the first place that although it has been said to have cured eight cases of tertian fever thus far, no mention is made of the number of cases treated. Without information of a definite character wherewith to make comparison, it is impossible to say whether the claims made are of any value or not. Further, in the article above quoted, a very reserved statement is made by M. Dujardin-Beaumetz as to its value as a febrifuge, and he concludes by saying that it is impossible to give a definite opinion until more elaborate investigations shall be instituted.

In the second place, we do not believe that the drug is what it is said to be. This may be considered a strong statement, but we feel somewhat intrenched in this position by confirmatory evidence from other independent inquirers. We have ascertained from Mexican correspondents that Panbotano (Pambolano) is a secret mixture which is being sold as a proprietary medicine in certain parts of that country as a remedy for ague and intermittent fevers. We also learn that European clinics have been approached with the view of securing indorsation of the remedy. All this is confirmed by our esteemed contemporary, the *Chemist and Druggist*,* in a letter from a California correspondent who has been probing the matter, and we cannot do better than quote the words:

"Pambolano is a remedy against fevers, chills, etc., prepared by General B. L. de La Barra, and is composed of several roots, which only this gentleman knows. Mr. La Barra has, however, other attentions and does not push the sale in a sufficient manner, so that the medicine does not go off as rapidly as it very likely deserves. We understand that French physicians who have made trials in Europe and Algiers have obtained very favorable results. Should you take special interest in this matter, it would be advisable that you write to the General, explaining what are your intentions, and, in this way, we should be more able to induce that gentleman to give you a full answer and send you samples."—*Chemist and Druggist*, March 1st, 1890.

We would not reject a febrifuge merely because analysis proves—as in the present case—the absence of either alkaloids or glucosides, but we confess to a feeling of skepticism that looks for more exhaustive proofs of merit than the meagre report before us shows. The *onus probandi* is certainly greater in establishing such a remedy in the confidence of scientific men.

---

* *Bulletin Général de Thérapeutique*, April 8th, 1890.

* March 1st, 1890.

Mr. C. R. Orcutt writes that the manufacture of syrup from the fruit of the Opuntia may at no far distant day become an important industry in southern California. *Opuntia Ficus-Indica*, or Indian fig, *O. Tuna* and *O. Tuna-manse* have become naturalized around the old Californian missions. They are natives of Mexico and make rank and rapid growth. The juice of the fruit, which these plants produce in great abundance, may be extracted in a cider press like the juice from apples, and boiled down to a fruity syrup indistinguishable from that manufactured from the watermelon. Excellent vinegar may also be made from the juice. In Mexico these Cacti are extensively cultivated for their fruit.—*Garden and Forest.*

To those of our readers who are only familiar with the appearance of the Castor-bean plant or Castor-oil plant as it is found in our northern States, it would have been somewhat startling to read in the columns of *Florida Facts*, that in that State it becomes perennial and rises to the dignity of being called a tree. The dimensions of a three-year-old specimen as measured by the above authority are given as:—stem, forty-nine inches in circumference at the ground; height thirty-seven feet, and spread of its branches sixty feet in diameter.

We are in receipt of a "*Notizkalander für praktische Aerzte*" for 1890, published in Berlin. It contains the advertisement of a Berlin house that offers among other fluid preparations, "Ditania digitifolia, Milch-Secretion fördernd, Cewährte Liqueurform." Some of the readers of the DRUGGISTS' BULLETIN may remember that "Ditania digitifolia" was proved in these columns some three years ago* to be a fraud, and we had long ago considered that it had met the fate it deserved and was consighed to oblivion. A later article appearing in the *Therapeutic Gazette* (September 15th, 1887, p. 588) so thoroughly overhauls the swindle that perhaps we may be excused in quoting therefrom, seeing that an evident attempt is being made to again place "Ditana" upon the market.

"The plant represented by Prof. Giurleo [in circulars accompanying the medicine] under this name [Ditana digitifolia] is a botanical impossibility. Its leaves exclude it from the family Onagraceæ; but, aside from this, the whole figure is a monstrosity, and that on page 4 of the pamphlet carries on its face the evidence of fraud, in the manner in which it has been doctored to produce a sensational effect.

Further evidences of fraud are found in the attempt to mislead the public into the belief that the plant is unknown, or has no other name than the fanciful one above referred to. The eighteen years during which the Professor has been receiving supplies for the manufacture of his quack medicine, has afforded ample opportunities for securing material for botanical identification if it were a known plant. If, on the contrary, it were unknown, it should have been referred to some competent botanist for classification and publication. Under the circumstances, we are perfectly justified in assuming that the whole thing is scientifically a swindle from beginning to end, and that the origin of "Galattoforo" may as well be a door-yard weed from the vicinity of Rome as some mysterious plant from Mexico" * * *

"*Ditana digitifolia* means nothing. It is not a botanical name."

In the original label, printed in four languages, Giurleo sets forth that the remarkable remedy "Galattoforo," "invented by him," is already recommended by all the leading therapeutists, and "all people," he says, "ask it above all for its perfection, good taste, and prodigious virtue." He concludes by asking that purchases be made directly from himself, "the inventor," [truly so] and also by stating that orders unaccompanied by cash are worthless. This last, but not least, is suggestive.

REVISED NAMES OF PLANTS OF NEW JERSEY, EXTRACTED FROM BRITTON'S STATE CATALOGUE.

This catalogue represents the most extended application in this country of any rules of nomenclature. It is true that many names have been revised in the new edition of Gray's Manual, but this has been done in a desultory fashion, no one system having been even professedly followed. There was much need of a careful revision of the names printed in the old edition, and in this respect the new edition has proven very disappointing. It has therefore appeared desirable to the BULLETIN to place in the hands of its readers a record of the following changes in the names of the older work, as printed in Dr. Britton's catalogue, in suitable form for ready reference, and with this object we have adopted the alphabetical arrangement.

It is not here claimed that all the changes are desirable. Many of them rest upon opinion, and not even the author of the work could hope for unanimous agreement in all cases. But by far the greater number are simply corrections of plain errors, the perpetuation of which can only be injurious to the interests of botanical science. The list which we here copy constitutes really the only reliable guide that we have to the names of the plants of the region covered.

Abies nigra, *Poir.*, becomes Picea Mariana (*Mill.*), *B.S.P.*
Abies Canadensis, *Michx.*, becomes Tsuga Canadensis (*L.*), *Carr.*
Acer saccharinum, *Wang.*, *not L.*, becomes A. saccharum, *Marsh.*
Acer dasycarpum, *Ehrh.*, becomes A. saccharinum, *L.*

---

* DRUGGISTS' BULLETIN, April, 1887, p. 50.

Actinomeris squarrosa, *Nutt.*, becomes A. alternifolia (*L.*), *DC.*

Adlumia cirrhosa, *Raf.*, becomes A. fungosa (*Ait.*), *Greene.*

Æschynomene hispida, *Willd.*, becomes Æ. Virginica (*L.*), *B.S.P.*

Agrostis elata, *Trin.*, becomes A. altissima (*Walt.*), *Tuck.*

Agrostis scabra, *Willd.*, becomes A. hiemalis (*Walt.*), *B.S.P.*

Agrostis vulgaris, *With.*, becomes A. alba, var. vulgaris (*With.*), *Thurb.*

Aira flexuosa, *L.*, becomes Deschampsia flexuosa (*L.*), *Griseb.*

Aira cæspitosa, *L.*, becomes Deschampsia cæspitosa (*L.*), *Beauv.*

Ammannia humilis, *Michx.*, becomes A. ramosior, *L.*

Ampelopsis quinquefolia, *Michx.*, becomes Vitis quinquefolia (*L.*), *Lam.*

Amphicarpæa monoica, *Ell.*, becomes A. comosa (*L.*), *Ridd.*

Anacharis Canadensis, *Planch.*, becomes Elodea Canadensis, *Michx.*

Andropogon furcatus, *Muhl.*, becomes A. provincialis, *Lam.*

Andropogon macrourus, *Michx.*, becomes A. glomeratus (*Walt.*), *B.S.P.*

Anemone Pennsylvanica, *L.*, becomes A. dichotoma, *L.*

Antennaria margaritacea, *R. Br.*, becomes Anaphalis margaritacea, (*L.*), *Benth. & Hook.*

Anychia dichotoma, *Michx.*, var. capillacea, *Torr.*, becomes A. Canadensis (*L.*), *B.S.P.*

Aplectrum hiemale, *Nutt.*, becomes A. spicatum (*Walt.*), *B.S.P.*

Arabis perfoliata, *Lam.*, becomes A. glabra (*L.*), *Bernh.*

Archangelica hirsuta, *T. & G.*, becomes Angelica villosa (*Walt.*), *B.S.P.*

Archangelica atropurpurea, *Hoffm.*, becomes Angelica atropurpurea, *L.*

Archemora rigida, *DC.*, becomes Tiedemannia rigida (*L.*), *Coulter & Rose.*

Archemora rigida, *DC.*, var. ambigua, *T. & G.*, becomes var. longifolia (*Pursh*), *B.S.P.*

Arenaria squarrosa, *Michx.*, becomes A. Caroliniana, *Walt.*

Arenaria stricta, *Michx.*, becomes A. Michauxii (*Fenzl.*), *Hook, f.*

Arrhenatherum avenaceum, *Beauv.*, becomes A. elatius (*L.*), *Mert & Koch.*

Asclepias Cornuti, *Decne*, becomes A. Syriaca, *L.*

Asclepias phytolaccoides, *Pursh.*, becomes A. exaltata (*L.*), *Muhl.*

Asclepias paupercula, *Michx.*, becomes A. lanceolata, *Walt.*

Aspidium acrostichoides (*Michx.*), *Sw.*, var. incisum, *Gray*, becomes var. Schweinitzii (*Beck*), *B.S.P.*

Asplenium ebeneum, *Ait.*, becomes A. platyneuron (*L.*), *Oakes.*

Asplenium thelypteroides, *Michx.*, becomes A. acrostichoides, *Sw.*

Aster surculosus, *Michx.*, var. gracilis, *Gray*, becomes A. gracilis, *Nutt.*

Aster miser, *Gray*, Manual; A. diffusus, *Ait.*, become A. lateriflorus (*L.*), *Britton.*

Aster simplex, *Willd.*, becomes A. paniculatus, *Lam.*

Aster longifolius, *Gray*, Manual, becomes A. Novi-Belgii, *L.*

Aster flexuosus, *Nutt.*, becomes A. tenuifolius, *L.*

Aster linifolius, *Gray*, Manual, becomes A. subulatus, *Michx.*

Azalea viscosa, *L.*, becomes Rhododendron viscosum (*L.*), *Torr.*

Azalea nudiflora, *L.*, becomes Rhododendron nudiflorum (*L.*), *Torr.*

Bartonia tenella, *Muhl.*, becomes B. Virginica (*L.*), *B.S.P.*

Bidens chrysanthemoides, *Michx.*, becomes B. lævis (*L.*), *B.S.P.*

Blitum capitatum, *L.*, becomes Chenopodium capitatum, (*L.*), *S. Wats.*

Blitum maritimum, *Nutt.*, becomes Chenopodium rubrum, *L.*

Bouteloua racemosa, *Lag.*, becomes B. curtipendula (*Michx.*), *Gray.*

Brachyelytrum aristatum, *Beauv.*, becomes B. aristosum (*Michx.*), *B.S.P.*

Brassica Sinapistrum, *Boiss.*, becomes B. arvensis (*L.*), *B.S.P.*

Brizopyrum spicatum, *Hook.*, becomes Distichlis spicata (*L.*), *Greene.*

Bromus ciliatus, *L.*, var. purgans, *Gray*, becomes B. purgans, *L.*

Calamagrostis Canadensis, *Beauv.*, becomes Deyeuxia Canadensis (*Michx.*) *Beauv.*

Calamagrostis Nuttalliana, *Steud.*, becomes Deyeuxia Nuttalliana (*Steud.*), *Vasey.*

Calamagrostis arenaria, *Roth.*, becomes Ammophila arenaria (*L.*), *Link.*

Calamagrostis brevipilis, *Gray*, becomes Ammophila brevipilis (*Torr.*), *Benth.*

Calopogon pulchellus, *R.Br.*, becomes C. tuberosus (*L.*), *B.S.P.*

Calystegia sepium, *R. Br.*, becomes Convolvulus sepium, *L.*, and var. pubescens, *Gray's Manual*, becomes var. repens (*L.*), *Gray.*

Calystegia spithamæa, *Pursh.*, becomes Convolvulus spithamæus, *L.*

Cardamine hirsuta, *L.*, var. sylvatica, *Gray*, becomes C. flexuosa, *With.*

Cardamine rhomboidea, *DC.*, becomes C. bulbosa (*Schreb.*), *B.S.P.*

Cardamine rhomboidea, var. purpurea, *Torr.*, becomes C. Douglassii (*Torr.*), *Britt.*

Carex lagopodioides, *Schk.*, becomes C. tribuloides, *Wahl.*

Carex cristata, *Schw.*, becomes C. tribuloides, *Wahl.*, var. cristata (*Schw.*), *Bailey.*

Carex fœnea, *Willd.*, becomes C. straminea, *Schk.*, var. fœnea (*Willd.*), *Torr.*

Carex silicea, *Olney;* C. fœnea, *Willd.*, var. sabulonum, *Gray*, become C. moniliformis (*Tuck.*), *Britt.*

Carex flacosperma, *Gray*, not Dewey, becomes C. glaucodea, *Tuck.*

Carex intermedia, *Boott.*, becomes C. laxiflora, *Lam.*

Carex retrocurva, *Dewey*, becomes C. laxiculmis, *Schwein.*

Carex varia, *Dewey*, becomes C. communis, *Bailey.*

Carex Emmonsii, *Dewey*, becomes C. varia, *Muhl.*

Carex stellulata, *Good.*, and its vars. scirpoides and angustata, *Carey*, and C. sterilis, *Willd.*, become C. echinata, *Murray*, var. radiata (*Wahl.*), *B.S.P.*

Carex lupuliformis, *Sartw.*, becomes C. lupulina, *Muhl.*, var. polystachya, *Schw. & Torr.*

Carex tentaculata, *Muhl.*, becomes C. lurida, *Wahl.*

Carex comosa, *Boott.*, becomes C. pseudo-Cyperus, *L.*, var. Americana, *Hochst.*

Carex lanuginosa, *Michx.*, becomes C. filiformis, *L.*, var. lanuginosa (*Michx.*), *B.S.P.*

Carex aperta, *Olney*, becomes C. stricta, *Lam.*, var. decora, *Bailey.*

Carex miliacea, *Muhl.*, becomes C. prasina, *Wahl.*

Carex gynandra, *Schw.*, becomes C. crinita, *Lam.*, var. gynandra (*Schw.*), *Schw. & Torr.*

Carex glabra, *Boott.*, becomes C. venusta, *Dewey*, var. glabra (*Boott.*), *Bailey.*

Carpinus Americana, *Michx.*, becomes C. Caroliniana, *Walt.*

Carya alba, *Nutt.*, becomes Hicoria ovata (*Mill.*), *Britt.*

Carya tomentosa, *Nutt.*, becomes Hicoria alba (*L.*), *Britt.*

Carya microcarpa, *Nutt.*, becomes Hicoria microcarpa (*Nutt.*), *Britt.*

Carya porcina, *Nutt.*, becomes Hicoria glabra (*Mill.*), *Britt.*

Carya amara, *Nutt.*, becomes Hicoria minima (*Marsh.*), *Britt.*

Castanea vesca, *L.*, becomes C. sativa, *Mill*, var. Americana (*Michx.*), *Sargent.*

Chamælirium Carolinianum, *Willd.*, becomes C. luteum (*L.*), *Gray.*

Cirsium discolor, *Spreng*, becomes Cnicus altissimus (*L.*), *Willd.*, var. discolor (*Muhl.*), *Gray.*

Cirsium pumilum, *Spreng*, becomes Cnicus odoratus (*Muhl.*), *B.S.P.*

Cirsium horridulum, *Michx.*, becomes Cnicus spinosissimus (*Walt.*), *Darl.*

Comptonia asplenifolia, *Ait.*, becomes Myrica asplenifolia (*L.*), *Banks.*

Conioselinum Canadense, *T. & G.*, becomes C. Chinense (*L.*), *B.S.P.*

Conoclinium cœlestinum, *DC.*, becomes Eupatorium cœlestinum, *L.*

Cornus paniculata, *L'Her.*, becomes C. candidissima, *Marsh.*

Corydalis glauca, *Pursh*, becomes C. sempervirens (*L.*), *Pers.*

Crataegus populifolia, *Walt.*, becomes C. cordata (*Mill.*), *Ait.*

Cuphea viscosissima, *Jacq.*, becomes C. petiolata (*L.*), *Koehne.*

Cupressus thyoides, *L.*, becomes Chamæcyparis thyoides (*L.*), *B.S.P.*

Cuscuta tenuiflora, *Engelm.*, becomes C. Cephalanthi, *Engelm.*

Cynoglossum Morisoni, *DC.*, becomes Echinospermum Virginianum (*L.*), *Lehm.*

Cynthia Virginica, *Don.*, becomes Krigia amplexicaulis, (*Mich.*), *Nutt.*

Cyperus inflexus, *Muhl.*, becomes C. aristatus, *Rottb.*

Cyperus phymatodes, *Michx.*, becomes C. esculentus, *L.*

Cyperus Michauxianus, *Torr.*, becomes C. speciosus, *Vahl.*

Cyperus cylindricus, *Britton, not of Chapman*, becomes C. Torreyi, *Britt.*

Dentaria diphylla, *Michx.*, becomes Cardamine diphylla (*Michx.*), *Wood.*

Dentaria heterophylla, *Nutt.*, becomes C. heterophylla (*Nutt.*), *Wood.*

Dentaria laciniata, *Muhl.*, becomes C. laciniata (*Muhl.*), *Wood.*

Desmodium acuminatum, *DC.*, becomes D. grandiflorum (*Walt.*) *DC.*

Dicentra Canadensis, *DC.*, becomes Diclytra Canadensis (*Goldie*), *DC.*

Dicentra Cucullaria, *DC.* (Gray's Manual) becomes Diclytra Cucullaria (*L.*), *DC.*

Dichromena leucocephala, *Michx.*, becomes D. cephalotes (*Walt.*), *Britt.*

Dicksonia pilosiuscula, *Willd.*, becomes D. punctilobula (*Michx.*), *Gray.*

Diplopappus linariifolius, *Hook.*, becomes Aster linariifolius, *L.*

Diplopappus umbellatus, *T. & G.*, becomes Aster umbellatus, *Mill.*

Diplopappus amygdalifolius, *T. & G.*, becomes var. humilis (*Willd.*), *B.S.P.*

Discopleura capillacea, *DC.*, becomes D. major (*Walt.*), *B.S.P.*

Drosera longifolia, *Michx.*, *not L.*, becomes D. intermedia, *Drev. & Hayne*, var. Americana, *DC.*

Echinocystis lobata, *T. & G.*, becomes Micrampeles echinata (*Muhl.*), *Raf.*

Eclipta procumbens, and E. erecta, *Mx.*, become E. alba (*L.*), *Hassk.*

Eleocharis pygmæa, *Torr.*, becomes Scirpus nanus, *Spreng.*

Eleocharis quadrangulata, *R. & S.*, becomes E. mutata (*L*), *R.* & *S.*

Eleocharis obtusa, *Schult.*, becomes E. ovata (*Roth*), *R.* & *S.*

Eleocharis filiculmis, *Torr.*, becomes E. microcarpa, *Torr.*

Elodes Virginica, *Nutt.*, becomes Hypericum Virginicum, *L.*

Elodes petiolata, *Pursh*, becomes Hypericum petiolatum, *Walt.*

Epilobium angustifolium, *L.*, in Gray's Manual, becomes E. spicatum, *Lam.*

Epilobium palustre, *L.*, var. lineare, *Gray*, becomes var. oliganthum (*Michx.*), *B.S.P.*

Epilobium molle, *Torr.*, becomes E. strictum, *Muhl.*

Eragrostis reptans, *Nees*, becomes E. hypnoides (*Lam.*), *B.S.P.*

Eragrostis poæoides, *Beauv.*, becomes E. minor, *Host.*

Eragrostis poæoides, *Beauv.*, var. megastachya, *Gray*, becomes E. major, *Host.*

Erigeron strigosus, *Muhl.*, becomes E. ramosus (*Walt.*), *B.S.P.*

Eryngium yuccæfolium, *Michx.*, becomes E. aquaticum, *L.*

Eupatorium pubescens, *Muhl.*, becomes E. rotundifolium, *L.*, var. pubescens (*Muhl.*), *B.S.P.*

Fedia olitoria, *Vahl.*, becomes Valerianella olitoria, *Poll.*

Festuca tenella, *Willd.*, becomes F. octoflora, *Walt.*

Festuca ovina, *L.*, var. duriuscula, *Gray*, becomes F. duriuscula, *L.*

Fimbristylis spadicea, *Vahl.*, var. castanea, *Gray*, becomes F. castanea, *Vahl.*

Fuirena squarrosa, var. pumila, *Torr.*, becomes F. squarrosa, *Michx.*

Fuirena squarrosa *of Gray's Manual, not of Michaux*, becomes var. hispida (*Ell.*), *Chapm.*

Galactia glabella, *Michx.*, becomes G. regularis (*L.*), *B.S.P.*

Gentiana quinqueflora *Lam.*, becomes G. quinquefolia, *L.*

Gentiana ochroleuca, *Frœl.*, becomes G. villosa, *L.*

Gerardia quercifolia, *Pursh*, becomes G. Virginica (*L.*), *B.S.P.*

Gnaphalium polycephalum, *Michx.*, becomes G. obtusifolium, *L.*

Glyceria acutiflora, *Torr.*, becomes G. brevifolia (*Muhl.*), *Schult.*

Glyceria aquatica, *Gray*, becomes G. arundinacea, *Kunth.*

Gymnopogon racemosus, *Beauv.*, becomes G. ambiguus (*Michx.*), *B.S.P.*

Gymnostichum Hystrix, *Schreb.*, becomes Asprella Hystrix (*L.*), *Willd.*

Habenaria virescens, *Spr.*, becomes H. flava (*L.*), *Gray.*

Helianthemum Canadense, *Michx.*, becomes H. majus (*L.*), *B. S. P.*

Heliopsis lævis, *Pers.*, becomes H. helianthoides (*L.*), *B. S. P.*

Heliopsis lævis, var. scabra, *Gray*, becomes H. scabra, *Dunal.*

Heliosciadium nodiflorum, *Koch.*, becomes Apium nodiflorum (*L.*), *S. Wats.*

Hepatica triloba, *Chaix.*, becomes Anemone Hepatica, *L.*

Herpestis amplexicaulis, *Pursh*, becomes H. Caroliniana (*Walt.*), *B. S. P.*

Hierochloa borealis, *Roem. & Schult.*, becomes H. odorata (*L.*), *Wahl.*

Hydrocotyle umbellata, *L.*, var. (?) ambigua, *Gray*; H. Canbyi, *Coulter & Rose*, become H. ambigua (*Gray*), *B. S. P.*

Hydrocotyle interrupta, *Muhl.*, becomes H. verticillata, *Thunb.*

Hypericum pyramidatum, *Ait.*, becomes H. Ascyron, *L.*

Hypericum prolificum, *L.*, var. densiflorum, *Gray*, becomes H. densiflorum, *Pursh.*

Hypericum angulosum, *Michx.*, in part, becomes H. virgatum, *Lam.*, var. ovalifolium, *Britt.*

Hypericum corymbosum, *Muhl.*, becomes H. maculatum, *Walt.*

Hypericum Sarothra, *Michx.*, becomes H. gentianoides (*L.*), *B. S. P.*

Impatiens pallida, *Nutt.*, becomes I. aurea, *Muhl.*

Impatiens fulva, *Nutt.*, becomes I. biflora, *Walt.*

Iris Virginica, *Gray*, becomes I. prismatica, *Pursh.*

Isanthus cœruleus, *Michx.*, becomes I. brachiatus (*L.*), *B. S. P.*

Juncus pelocarpus, *E. Meyer*, var. (?) subtilis, *Engelm*, becomes var. fluitans (*Michx.*), *B. S. P.*

Juncus acuminatus, *Michx.*, var. legitimus, *Engelm.*, becomes J. acuminatus, *Michx.*

Juncus scirpoides, *Lam.*, var. macrostemon, *Engelm.*, becomes J. scirpoides, *Lam.*

Lachnanthes tinctoria, *Ell.*, becomes Gyrotheca tinctoria (*Walt.*), *Salisb.*

Lactuca Canadensis, *L.*, var. integrifolia, *Gray*, becomes L. integrifolia, *Bigel.*

Lactuca Canadensis, *L.*, var. sanguinea, *T. & G.*, becomes L. hirsuta, *Muhl.*

Lappa officinalis, *All.*, becomes Arctium Lappa, *L.*

Lathyrus ochroleucus, *Hook.*, becomes L. glaucifolius, *Beck.*

Larix Americana, *Michx.*, becomes L. laricina. (*Du Roi*), *B.S.P.*

Lechea pulchella, *Raf.*, becomes var. pulchella (*Raf.*), *Britt. & Holl.*

Lechea major, *Michx.*, becomes L. Minor, *L.*

Lechea Novæ-Cæsaræa, *Austin*, becomes L. thymifolia, *Michx.*

Lechea thymifolia, *Pursh*, becomes L. maritima, *Leggett.*

Lechea minor, *Lam.*, becomes L. Leggettii, *Britton & Hollick.*

Lechea intermedia, *Leggett*, MS., becomes L. Leggettii, *Britt. & Hollick*, var. intermedia (*Legg.*), *Britt. & Holl.*

Leersia Virginica, *Willd.*, becomes Homalocenchrus Virginica (*Willd.*), *Britt.*

Leersia oryzoides, *Sw.*, becomes Homalocenchrus oryzoides (*L.*), *Poll.*

Lemna polyrhiza, *L.*, becomes Speirodela polyrhiza (*L.*), *Schleid.*

Leptochloa fascicularis, *Gray*, becomes Diplachne fasicularis (*Lam.*), *Beauv.*

Lespedeza procumbens, *Michx.*, becomes L. repens (*L.*), *Bart.*

Lespedeza violacea, *Pers.*, var. sessiliflora, *Don.*, becomes L. reticulata (*Muhl.*), *Pers.*

Lespedeza capitata, *Michx.*, becomes L. frutescens (*Willd.*), *Ell.*

Lespedeza capitata, *Michx.*, var. angustifolia, *Pursh*, becomes L. angustifolia (*Pursh*), *Ell.*

Leucanthemum vulgare, *Lam.*, becomes Chrysanthemum Leucanthemum, *L.*

Limnanthemum trachyspermum, *Michx.*, becomes L. aquaticum (*Walt.*), *Britt.*

Lonicera parviflora, *Lam.*, becomes L. glauca, *Hill.*

Lophiola aurea, *Ker*, becomes L. tomentosa (*Muhl.*), *B.S.P.*

Lycopodium dendroideum, *Michx.*, becomes L. obscurum, *L.*

Lycopus Europæus, *L.*, var. sessilifolius, *Gray*, becomes L. sessilifolius, *Gray.*

Lycopus Europæus, *L.*, var. sinuatus, *Gray*, becomes L. sinuatus, *Ell.*

Lysimachia stricta, *Ait.*, becomes L. terrestris (*L.*), *B.S.P.*

Lysimachia ciliata, *L.*, becomes Steironema ciliatum (*L.*), *Raf.*

Lysimachia lanceolata, *Walt.*, becomes Steironema lanceolatum (*Walt.*), *Gray.*

Maruta Cotula, *DC.*, becomes Anthemis Cotula, *L.*

Melampyrum Americanum, *Michx.*, becomes M. lineare, *Lam.*

Mentha Canadensis, *L.*, var. glabrata, *Benth.*(?), becomes var. borealis, (*Michx.*), *Wood.*

Microstylis ophioglossoides, *Nutt.*, becomes M. unifolia (*Michx.*), *B.S.P.*

Monotropa Hypopitys, *L.*, becomes Hypopitys Monotropa, *Crantz.*

Muhlenbergia glomerata, *Trin.*, becomes M. racemosa (*Michx.*), *B.S.P.*

Muhlenbergia Willdenovii, *Trin.*, becomes M. tenuiflora (*Willd.*), *B.S.P.*

Mulgedium leucophæum, *DC.*, becomes Lactuca leucophæa (*Willd.*), *Gray.*

Mulgedium acuminatum, *DC.*, becomes Lactuca villosa, *Jacq.*

Mulgedium Floridanum, *DC.*, becomes Lactuca Floridana (*L.*), *Gærtn.*

Myosotis palustris, var. laxa, *Gray*, becomes M. laxa, *Lehm.*

Myosotis verna, *Nutt.*, becomes M. Virginica (*L.*), *B.S.P.*

Myriophyllum scabratum, *Michx.*, becomes M. pinnatum (*Walt.*), *B.S.P.*

Myriophyllum ambiguum, *Nutt.*, var. limosum, *Torr.*, becomes var. humile (*Raf.*), *B.S.P.*

Nabalus albus, *Hook.*, becomes Prenanthes alba, *L.*

Nabalus altissimus, *Hook.*, becomes Prenanthes altissima, *L.*

Nabalus Fraseri, *DC.*, becomes Prenanthes Serpentaria, *Pursh.*

Nabalus virgatus, *DC.*, becomes Prenanthes autumnalis, *Walt.*

Nabalus racemosus, *Hook.*, becomes Prenanthes racemosa, *Michx.*

Narthecium ossifragum, *Huds.*, var. Americanum, *Gray*, becomes N. Americanum, *Ker.*

Nemopanthes Canadensis, *DC.*, becomes N. mucronata (*L.*), *Trelease.*

Nuphar advena, *Ait.*, becomes Nymphæa advena, *Soland.*

Nuphar Kalmianum, *Pursh*, becomes Nymphæa microphylla, *Pers.*

Nymphæa odorata, *Ait.*, becomes Castalia odorata (*Dryand.*), *Woodv. & Wood.*

Nymphæa tuberosa, *Paine*, becomes Castalia tuberosa (*Paine*), *Greene.*

Nyssa multiflora, *Wang.*, becomes N. sylvatica, *Marsh.*

Oldenlandia glomerata, *Michx.*, becomes O. uniflora, *L.*

Oryzopsis Canadensis, *Torr.*, becomes O. juncea (*Michx.*), *B.S.P.*

Osmorhiza brevistylis, *DC.*, becomes O. Claytoni (*Michx.*), *B.S.P.*

Panicum pauciflorum, *Ell.*, (?) becomes P. scoparium, *Lam.*

Panicum nervosum, *Muhl.*, becomes P. commutatum, *Schultes.*

Pardanthus Chinensis, *Ker*, becomes Belamcanda Chinensis (*L.*), *Red.*

Pawlownia imperialis, *Sieb. & Zucc.*, becomes P. tomentosa (*Thunb.*), *Britt.*

Pentstemon pubescens, *Soland.*, becomes P. hirsutus (*L.*), *Willd.*

Pentstemon digitalis, *Nutt.*, becomes P. lævigatus, *Soland*, var. digitalis (*Nutt.*), *Gray.*

Phaseolus perennis, *Walt.*, becomes P. polystachyus (*L.*), *B.S.P.*

Phaseolus diversifolius, *Pers.*, becomes P. helvolus, *L.*

Phegopteris polypodioides, *Fee.*, becomes P. connectilis (*Michx.*), *B.S.P.*

Phragmites communis, *Trin.*, becomes P. vulgaris (*Lam.*), *B.S.P.*

Physalis viscosa, *Gray*, Manual, becomes P. Virginiana, *Mill.*

Pinus inops, *Ait.*, becomes P. Virginiana, *Mill.*

Pinus mitis, *Michx.*, becomes P. echinata, *Mill.*

Plantago maritima, *L.*, var. juncoides, *Gray*, becomes P. decipiens, *Barn.*

Plantago pusilla, *Nutt.*, becomes P. elongata, *Pursh.*

Pluchea bifrons, *DC.*, becomes P. fœtida (*L.*), *B.S.P.*

Pogonia pendula, *Lindl.*, becomes P. trianthophora (*Sw.*), *B.S.P.*

Polanisia graveolens, *Raf.*, becomes P. dodecandra (*Michx.*), *B.S.P.*

Polygonum amphibium, *L.*,var. terrestre, *Willd.*, becomes P. emersum, (*Michx.*), *Britt.*

Polygonum aviculare, *L.*, var. erectum, *Gray*, becomes P. erectum, *L.*

Polygala ambigua, *Nutt.*, becomes P. verticillata, *L.*, var. ambigua (*Nutt.*), *Britton.*

Polygonatum giganteum, *Dietr.*, becomes P. commutatum (*Schult.*), *Dietr.*

Populus angulata, *Ait.*, becomes P. monilifera, *Ait.*

Potamogeton compressus, *Fries.*, becomes P. zosteræfolius, *Schum.*

Potamogeton Claytonii, *Tuck.*, becomes P. Pennsylvanicus, *Cham.*

Potamogeton lonchites, *Tuck.*, becomes P. fluitans, *Roth.*

Potamogeton lucens, *L.*, var. minor, *Nolte.*, becomes P. Zizii, *Mert.* & *Koch.*

Pycnanthemum lanceolatum, *Pursh*, becomes P. Virginicum (*L.*), *B.S.P.*

Pycnanthemum linifolium, *Pursh.*, becomes P. flexuosum (*Walt.*), *B.S.P.*

Quamoclit coccinea, *Moench.*, becomes Ipomœa coccinea, *L.*

Quercus obtusiloba, *Michx.*, becomes Q. minor (*Marsh.*), *Sargent.*

Quercus Prinus, *L.*, var. acuminata, *Michx.*, becomes Q. Muhlenbergii, *Engelm.*

Quercus prinoides, *Willd.*, becomes, Q. Muhlenbergii, *Eng.*, var. humilis (*Marsh.*), *Britt.*

Quercus Phellos, *L.* × Quercus nigra, *L.*, becomes Q. Rudkini, *Britton.*

Ranunculus aquatilis, *L.*, var. stagnatilis, *DC.*, (and R. divaricatus, *Shrank*) becomes R. circinatus, *Sibth.*

Ranunculus alismæfolius, *Gray, not Geyer*, becomes R. ambigens, *S. Wats.*

Ranunculus Flammula, *L.*, var. reptans, *Meyer*, becomes R. reptans, *L.*

Rhodora Canadensis, *L.*, becomes Rhododendron Canadensis (*L.*), *B.S.P.*

Rhus Toxicodendron, *L.*, becomes R. radicans, *L.*

Rynchospora cephalantha, *Gray*, becomes R. axillaris (*Lam.*), *Britt.*

Rynchospora macrostachya, *Gray*, becomes R. laxa, *Vahl*, var. macrostachya (*Torr.*), *Clarke.*

Ribes hirtellum, *Michx.*, becomes R. oxyacanthoides, *L.*

Rosa lucida, *Ehrh.*, becomes R. humilis, *Marsh.*, var. lucida (*Ehrh.*), *Best.*

Rumex orbiculatus, *Gray*, becomes R. Britannicus, *L.*

Rumex Britannica, *Gray*, becomes R. altissimus, *Wood.*

Sabbatia chloroides, *Pursh*, becomes S. dodecandra (*L.*), *B.S.P.*

Sagina subulata, *Gray*, Manual, becomes S. decumbens (*Ell.*), *T. & G.*

Sagittaria pusilla, *Nutt.*, becomes S. natans, *Michx.*

Salix livida, *Wahl.*, var. occidentalis, *Gray*, becomes S. rostrata, *Richards.*

Sambucus pubens, *Michx.*, becomes S. racemosa, *L.*

Samolus Valerandi, *L.*, var. Americanus, *Gray*, becomes var. floribundus (*H. B. K.*), *B.S.P.*

Schollera graminea, *Willd.*, becomes Heteranthera graminea (*Michx.*), *Vahl.*

Scirpus validus, *Vahl*, becomes S. lacustris, *L.*

Scirpus Eriophorum, *Michx.*, becomes Eriophorum cyperinum, *L.*

Scleria laxa, *Torr.*, becomes S. Torreyana, *Walp.*

Sclerolepis verticillata, *Cass.*, becomes S. uniflora (*Walt.*), *B. S. P.*

Sericocarpus solidagineus, *Nees*, becomes S. linifolius, (*L.*), *B. S. P.*

Sericocarpus conyzoides, *Nees*, becomes S. asteroides (*L.*), *B. S. P.*

Sesuvium pentandrum, *Ell.*; S. Portulacastrum, *Gray, not L.*, become S. maritimum (*Walt.*), *B. S. P.*

Sisyrinchium Bermudiana, *Gray, not L.*, becomes S. angustifolium, *Mill.*

Sium lineare, *Michx.*, becomes S. cicutæfolium, *Gmel.*

Smilacina stellata, *Desf.*, becomes Unifolium stellatum (*L.*), *Greene.*

Smilacina trifolia, *Desf.*, becomes Unifolium trifolium (*L.*), *Greene.*

Smilacina bifolia, *Ker*, var. Canadensis, *Gray*, becomes Unifolium Canadense (*Desf.*), *Greene.*

Solidago bicolor, var. concolor, *T. & G.*, becomes S. hirsuta, *Nutt.*

Solidago virgata, *Michx.*, becomes S. stricta, *Ait.*

Solidago linoides, *T. & G.*, becomes var. uniligulata (*Nutt.*), *B. S. P.*

Solidago Muhlenbergii, *T. & G.*, becomes S. arguta, *Ait.*

Solidago arguta, *T. & G.*, becomes S. juncea, *Ait.*

Solidago stricta, *T. & G.*, not *Ait.*, becomes S. uliginosa, *Murr.*

Solidago altissima, *T. & G.*, becomes S. rugosa, *Mill.*

Solidago elliptica, *T. & G.*, becomes S. Elliottii, *T. & G.*

Solidago gigantea, *Gray*, becomes S. serotina, *Ait.*

Solidago serotina, *Gray*, becomes S. serotina, *Ait.*, var. gigantea (*Ait.*), *Gray.*

Solidago tenuifolia, *Pursh*, becomes S. Caroliniana (*L.*), *B. S. P.*

Sorghum nutans, *Gray*, becomes Chrysopogon nutans (*L.*), *Benth.*

Sparganium simplex, *Huds.*, var. androcladum, *Engelm.*, becomes S. androcladum (*Engelm.*), *Morong.*

Spartina stricta, var. alterniflora, *Gray*, becomes Spartina maritima (*Walt.*), *B.S.P.*

Speiranthes graminea, *Lindl.*, var. Walteri, *Gray*, becomes var. præcox (*Walt.*), *B.S.P.*

Spergularia rubra, *Presl;* Lepigonum rubrum, *Fr.*, become Tissa rubra (*L.*), *Britton.*

Spergularia media, *Presl;* Lepigonum medium, *Fr.*, become Tissa marina (*L.*), *Britton.*

Spiræa opulifolia, *L.*, becomes Physocarpa opulifolia (*L.*), *Raf.*

Spiræa corymbosa, *Raf.*, becomes S. betulifolia, *Pall.*

Stachys palustris, *L.*, var. aspera, *Gray*, becomes S. aspera, *Michx.*

Stachys palustris, *L.*, var. cordata, *Gray*, becomes S. cordata, *Ridd.*

Struthiopteris Germanica, *Willd.*, becomes Onoclea Struthiopteris (*L.*), *Hoffm.*

Stylisma Pickeringii, *Gray*, becomes Breweria Pickeringii (*Torr.*), *Gray.*

Stylothanthes elatior, *Sw.*, becomes S. biflora (*L.*), *B.S.P.*

Suæda maritima, *Gray*, becomes S. linearis (*Ell.*), *Torr.*, var. Salsa (*Michx.*), *B.S.P.*

Symphoricarpos vulgaris, *Michx.*, becomes S. orbiculatus, *Moench.*

Taraxacum Dens-leonis, *Desf.*, becomes T. officinale, *Web.*

Thalictrum anemonoides, *Michx.*, becomes Anemonella thalictroides (*L.*), *Spach.*

Thalictrum Cornuti, *Amer. authors, not L.*, becomes T. polygamum, *Muhl.*

Thaspium trifoliatum, *Gray*, in part, becomes T. aureum (*L.*), *Nutt.*, var. cordatum (*Walt.*), *B.S.P.*

Thaspium trifoliatum, *Gray*, Manual, in part, and var. apterum, *Gray*, become Zizia cordata, *Koch.*

Thaspium trifoliatum, var. atropurpureum, *Gray*, becomes T. aureum (*L.*), *Nutt.*, var. trifoliatum (*L.*), *B.S.P.*

Tilia Americana, *L.*, var. pubescens. *Gray*, becomes T. pubescens, *Ait.*

Tipularia discolor, *Nutt.*, becomes T. unifolia (*Muhl.*), *B.S.P.*

Tofieldia pubens, *Pers.*, becomes T. racemosa (*Walt.*), *B.S.P.*

Tricuspis seslerioides, *Torr.*, becomes Triodia seslerioides (*Michx.*), *Benth.*

Tricuspis purpurea, *Gray*, becomes Triplasis purpurea (*Walt.*), *Chapm.*

Trifolium procumbens, *L.*, var. minus, *Koch.*, becomes T. dubium, *Sibth.*

Trisetum palustre, *Torr.*, becomes T. Pennsylvanicum (*L.*), *B.S.P.*

Triticum repens, *L.*, becomes Agropyrum repens (*L.*), *Beauv.*

Triticum caninum, *Gray*, becomes Agropyrum caninum (*L.*), *Roem. & Schult.*

Uniola gracilis, *Michx.*, becomes U. laxa (*L.*), *B.S.P.*

Utricularia striata, *Le Conte*, becomes U. fibrosa, *Walt.*

Utricularia subulata, var. cleistogama, *Gray*, becomes U. cleistogama (*Gray*), *Britt.*

Uvularia sessilifolia, *L.*, becomes Oakesia sessilifolia (*L.*), *S. Wats.*

Vaccaria vulgaris, *Host.*, becomes Saponaria Vaccaria, *L.*

Vaccinium Oxycoccus, *L.*, becomes Oxycoccus palustris, *Pers.*

Vaccinium macrocarpon, *Ait.*, becomes Oxycoccus macrocarpus, *Pers.*

Vaccinium corymbosum, var. atrococcum, *Gray*, becomes V. disomorphum, *Bigel.*

Veronica Buxbaumii, *Ten.*, becomes V. Byzantina (*Sibth. & Sm.*), *B.S.P.*

Vilfa aspera, *Beauv.*, becomes Sporobolus asper (*Michx.*), *Kunth.*

Viola canina, *L.*, var. sylvestris, *Gray*, Manual, becomes var. Muhlenbergii (*Torr.*), *Gray.*

Viola cucullata, *Ait.*, var. palmata, *Gray*, becomes V. palmata, *L.*

Viola tricolor, *L.*, var. arvensis, *DC.*, becomes V. tenella, *Muhl.*

Vitis cordifolia, *Michx.*, var. riparia, *Gray*, becomes V. riparia, *Michx.*

Woodwardia angustifolia, *Smith*, becomes W. areolata (*L.*), *Moore.*

Xanthium strumarium, *L.*, var. echinatum, *Gray*, becomes X. Canadense, *Mill.*, var. echinatum (*Murr.*), *Gray.*

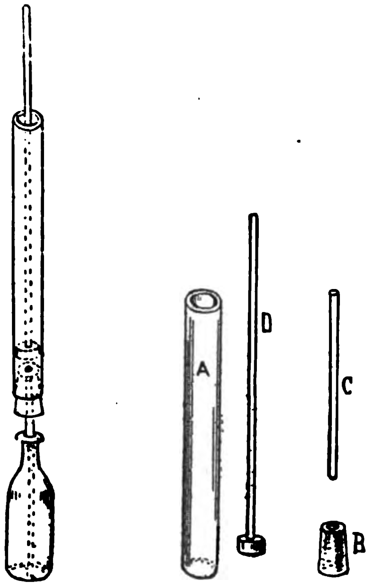
TREES AND BUILDINGS.

In a recent number of the *Sanitarian*, Dr. W. T. Parker protests against the thick planting of trees very near the house. Not only do they prevent the free access of air and of sunshine or even light, but they also injure the character of the soil as suited for permanent occupation. "A soil," says the writer, "loaded with roots and densely shaded, is unfit for man to live upon constantly. . . . . Vegetation produces a great effect upon the movement of the air. Its velocity is checked, and sometimes in thick clusters of trees or underwood the air is almost stagnant. If moist and decaying vegetation be a coincident condition of such stagnation, the most fatal forms of malarious diseases are produced. A moist soil is cold, and is generally believed to predispose to rheumatism, catarrh and neuralgia. It is a matter of general experience that most people feel healthier on a dry soil. In some way, which is not clear, a moist soil produces an unfavorable effect upon the lungs. A moist soil influences greatly the development of the agent, whatever it may be, which causes the paroxysmal fevers." Of course, in the desire to avoid possible dangers, it is not necessary to place a house on an absolutely bare spot, away from any tree, as is often done by rural builders, even when fine trees are within reach. Enough trees to produce an effect agreeable to the eye and comfortably to shade certain portions of the house and its immediate vicinity in summer, yet not so many as to render the soil damp or prevent the free circulation of air, or wholly shut out the sun, should be the householder's ideal. Conifers are especially bad if many of them stand close to the house, because they exclude sunshine in winter, when one cannot have too much of it.

Nut-Cracking Department.

Apparatus for Filling Narrow Mouth Bottles with Unctuous Substances.

Having frequently had occasion to fill long cylindrical sample bottles with ointments and other substances of similar consistence, we have hit upon the following device which is offered our readers as a simple and practicable means of accomplishing a difficult task.



A.—A glass tube, about 1 inch in diameter and 6 to 10 inches long.

B.—Perforated cork.

C.—Glass tube fitting exactly into *B* and of about the same length as the bottle to be filled.

D.—Wooden stick bearing a cork (fastened with a tack) on one end and fitting closely into *A.*

Fill *A* with the substance to be bottled, insert *C* into *B*; *B* into *A*; *D* in the other end of *A* (cork end first). Introduce *C* into the bottle to be filled, nearly touching the bottom; press upon *D* and pull the bottle back as fast as it fills up. This contrivance has the indispensable qualities of being cheap, simply constructed, and easily cleaned.

Funk's Cream of Roses.

Rex-Olymphian.—This preparation can be closely imitated by digesting one drachm of gum tragacanth in seven fluidounces of water for three or four hours, straining through muslin while warm, and adding one fluidounce of glycerin.

The resulting mixture to be perfumed with white rose handkerchief extract, and colored light pink with cochineal color or carmine.

Postage Stamp Mucilage.

L. T. R.—Mucilage made in accordance with the following formula will in all probability answer your purpose:

Brown dextrin	1 pound.
Acetic acid	4 ounces.
Alcohol	4 ounces.
Water, sufficient to make	2 pints.

Dissolve dextrin in a pint of boiling water, strain through Canton flannel, add acetic acid, and when nearly cold add the alcohol, stirring throughout the operation; if necessary make up volume with warm water to 1 quart.

About Drawing Cheques.

T. G. W.—We are informed that by a recent decision of the United States Supreme Court, if the drawer of a cheque upon a bank does not use protection to prevent alteration, and the bank innocently pays the raised check, the drawer must stand any loss occasioned thereby. "When the drawer has drawn his cheque in such a careless and incomplete manner that a material alteration may be readily accomplished without leaving a perceptible mark or giving the instrument a suspicious appearance, he himself prepares the way for fraud, and, if committed, he, and not the bank, should suffer." This is the language of the Court.

Buried Gold.

French statisticians are said to be making a curious calculation of the amount of gold which is annually buried in the United States. It has been asserted, after careful inquiries, that American dentists insert in American teeth the enormous amount of eight hundred kilogrammes (about eighteen hundred pounds) of the precious metal, which represents nearly four hundred and fifty thousand dollars. This gold is never recovered, of course, but is buried with the persons in whose mouth it is placed. Making allowance for the rapid increase of the population of the United States, and for the continued deterioration of American teeth, it appears that in less than a hundred years American cemeteries will contain a larger amount of gold than now exists in France. This is no fancy sketch, as the pockets of every dentist, and especially every dentist's patient, will attest.

"CHESTNUTS."

"Abraham Lincoln once said, "You can fool some of the people all the time, and you can fool all of the people some of the time, but you can't fool all the people all the time."

"It is an open question whether a smokeless cigarette would not be a greater boon to humanity than a smokeless powder."

"Coolness and absence of heat and haste, indicate fine qualities. A gentleman makes no noise; a lady is serene."

"You will never find time for anything; if you want time you must take it."

"It is the old man, as a rule, who gives the advice to the young man. And it is the old man, too, who gives the money to the confidence man."

"When a man is too busy to laugh, he needs a vacation."

"The young man who forged his way to the front is now in Sing Sing."

"The willingness of a new boy is in many respects more of a bother than the laziness of an old one."

"The talent of success is nothing more than doing what you can do well, without a thought of fame."

"Treat your customers as your friends, by serving them in the best manner, and never let them be deceived or disappointed."

"The grub makes the butterfly; the blacksmith makes the fire fly."

"When mother says "Johnnie,
Won't you please get up, sonny?"
Why, Johnnie can't hear her at all;
But when father says "John!"
John's slumbers are done—
He knows it's the first and last call."

"Believe yourself a genius; keep at it and time will show you what a fool you are."

"When a public officeholder comes to feel that he is a big gun, it is time for him to be fired."

"He who does not engage in the quarrels of others will have few of his own."

"Reflection increases the vigor of the mind as exercise does the strength of the body."

"THE MEN WHO DO NOT LIFT.

The world is sympathetic. The statement none can doubt;
When A's in trouble we think that B should help him out?
Of course we haven't time ourselves to care for any one,
But yet we hope that other folks will see that it is done.
We want the grief and penury of earth to be relieved,
We'd have the battles grandly fought, the victories achieved.
We do not care to take the lead and stand the brush and brunt,
At lifting we'e a failure, but we're splendid on the grunt.

And there are others, so we find, as on our way we jog
Who want to do their lifting on the small end of the log,
They do a lot of blowing, and they strive to make it known
That were there no one else to help, they'd lift it all alone.
If talking were effective, there are scores and scores of men
Who'd move a mountain off its base and move it back again;
But as a class, to state it plain, in language true and blunt,
They're never worth a cent to lift, for all they do is grunt.

Correspondence.

PARIS LETTER.

Granulated Drugs—Kobert's Article on Spermine—New Knowledge of Toxalbumen—Incompatibility of Cocaine Hydrochlorate and Borate of Sodium—A Formulary of New Medicaments—An Explosive Prescription—Phenylmethan, a Rival of Antipyrin—Tincture of Capsicum in Pneumonia Accompanying Delirium Tremens.

For a year or more the opinion has been gaining ground among French pharmacists, that granulated drugs—which had become widely popular on account of their attractive appearance—were not up to the average strength of drugs powdered in the old way, or, rather, drugs which had not been put through the process of "graded sifting." In the June number of the *Répertoire de Pharmacie*, M. P. Carles states that he carefully analyzed a large number of the granulated powders, and found that the suspicions of the pharmacists were perfectly well based, as far, at least, as many of the most important drugs are concerned. The author says: "When the granulated powders consist of substances, all parts of which are identical, or of chemicals—such drugs, for instance, as tartaric or citric acid, camphor, gums, the salts in general, and some resins or gum resins such as aloes—the new powders possess certain advantages; but when the sifting process is applied to roots, barks, and other organized vegetable or animal products, or even to some of the natural or artificial minerals, I find that it always modifies their composition and deprives them of a portion of their therapeutic properties." The author observed, moreover, that the drugs which were affected at all by the sifting process were weakened in exact proportion to the number of siftings they received, for the coarse powders were invariably the weakest in active principles.

The French scientific journals are giving much consideration to Kobert's article on Spermine, originally published in the *Forts. d. Med. d. Prag.* The *Répert. de Phar.*, for June, says: "We all know of the communications of Dr. Brown-Séquard, which were received with a certain amount of skepticism by the medical world. But Variot, Mairet, Crivelli, and others, in France, and Hammond, Loomis, Stockwell, and Brainard, in the United States, regarding the matter from a purely scientific point of view, have repeated the experiments of Dr. Brown-Séquard, and have partly confirmed them. The house of Parke, Davis & Co., of Detroit, prepared some *Hydrochlorate of Spermine*, which Kobert employed as follows:

℞	Hydrochlorate of spermine...	10 centigrammes.
	Distilled water.............	8 grammes.
	Glycerin......	2 grammes.

Administer hypodermically, giving the contents of a Pravaz syringe once or twice a day."

Professor Cornil, in the *Journ. des Conn. Méd.*, of May 1st, reviews the knowledge we have thus far gained concerning Tox-Albumen or Tox-Albuminose. He says that the toxic action of pathogenic microbes is not alone due to the microbes, or to the alkaloids they secrete. In cultures of the diphtheritic microbe, Roux and Yersin found a toxic substance which they supposed to be a diastase. Christmas found that the *staphylococcus pyogenes aureus* contained a pyogenic albumen precipitable by alcohol. Hankin observed the albuminic character of toxic substances isolated in cultures of charbon. Brieger and Frænkel obtained a substance in a pure state and named it Tox-Albumen. As it will cause diseases of the same nature, though not of the same degree, as those incited by the particular bacillus to which the substance is due, physicians are already asking why it may not be used as a vaccine against those diseases. Meanwhile, the experimentors state how they obtained their product. They precipitated it from culture solutions at a temperature of 30° C., with sulphate of ammonia, the precipitate being redissolved in water, again precipitated, dialyzed, and dried in vacuo at a temperature of 40° C. It can be precipitated by carbonic acid, by certain concentrated mineral acids, by acetic acid, phenol, sulphate of copper, nitrate of silver and the chloride of mercury. The substance resembles serum albumen and preserves its toxic properties even after it has been heated to 70° C. The authors think that Tox-Albumen forms at the expense of the albumen of the tissues, thus putting forward the startling proposition that, under the influence of certain micro-organisms, the human economy may very easily manufacture enough Tox-Albumen to destroy itself.

At the May meeting of the Société de Pharmacie, M. Julliard remarked that physicians continue to prescribe solutions of Hydrochlorate of Cocaine with borate of sodium, thus precipitating the former. He recommended that a little glycerin be added to such combination. M. Grimbert said that if the glycerin caused a disappearance of the precipitate, it was not because it dissolved the Cocaine, but on account of its giving an acid reaction to the borate of sodium. M. Thibaut thought it was better not to use glycerin at all, but to add to the mixture enough of boric acid to effect a re-solution of the Cocaine. The latter proposition was favorably received by other pharmacists present.

The Congrès Pharmaceutique, at its meeting of August 8th, 1889, adopted a resolution inviting the Société de Pharmacie de Paris to elaborate a "Formulary of New Medicaments," accompanied by tables giving the maximum doses of such substances among them as are properly considered toxic. The Society appointed a Commission, and the latter ask for communications upon new medicaments. These should be forwarded so that they may reach the Commission by September 1st at the latest, and may be addressed to M. F. Vigier, President, 12 Boulevard Bonne-Nouvelle; or to M. Planchon, General Secretary, 4 Avenue de l'Observatoire, Paris. This formulary, though it will not be an official authority in the sense that the following out of its conclusions will be enjoined upon pharmacists — as is the case with the Codex—will be regarded as a work of weight and character; hence, those who possess valuable knowledge concerning new medicaments should place it at the disposal of this Commission.

M. Tardy, a Parisian prescription clerk, in making up a potion calling for Salicylate of Bismuth and carbonate of lime with water, observed an active effervescence due to the presence of free salicylic acid, a reaction which showed that the bismuth salt was not of good quality. The clerk wrote of this circumstance to the *Union Pharmaceutique* for May, adding that French physicians often prescribe cachets containing Salicylate of Bismuth with bicarbonate of soda and naphthol, in which case the cachets explode with some violence at times. If the patient dips the cachet in water before swallowing it, he is likely to be spattered; if he takes the cachet with a swallow of water, he runs the risk of a "pharyngeal explosion." The moral is, of course, that pharmacists should make sure of the neutral condition of their stock of Salicylate of Bismuth.

According to *L'Union Phar.*, Dr. Giacomini, in a communication to the Turin Academy of Medicine, stated that Phenylmethan exercises an action in all respects comparable to that of antipyrin, even when administered in doses one-half the size of the usual doses of antipyrin. He administered it in Marsala or any similar light wine. Dr. Giacomini said that Phenylmethan not only possesses all of the antipyretic properties of antipyrin, but was fully equal to that drug as an analgesic, or in combating acute articular rheumatism.

In *Nouveaux Remèdies*, M. P. Netchaël speaks of his successful use of tincture of *Capsicum annuum*—well known to American and English physicians as a remedy in delirium tremens—for pneumonia. The author tried the remedy in eight cases and did not have a single failure. In cases of pneumonia with alcoholic delirium, the author says that the tincture "aborts the delirium," or renders it less intense, and exercises a favorable action upon the heart. It gives the pneumonia a benign character, arouses the appetite, and induces a calm and continuous sleep. The formula used was:

℞ Tincture capsicum annuum....	3 to 5 grammes.
Water........................	180 grammes.

Dose, 20 drops several times daily.

LONDON LETTER.

The Addendum (1890) to the B. P., 1885—The President of the Pharmaceutical Society on a Campaign.

Medicine in England, said the President of the Pharmaceutical Society the other day, is not on the same footing as in other European countries; in the latter it has developed on a scientific basis, in the former it is the outcome of pure quackery as primarily practiced by old women and herb collectors. This being so, accounts on the one hand for the low place among the learned professions occupied by medicine, and on the other for the less progressive and less inquiring character of its followers. Further, as a matter of course, pharmacy and its followers are in a similar position.

These considerations throw some light upon the decidedly anomalous procedure of English authorities in the matter of Pharmacopœias. It seems to be considered the wisest course to issue an edition of the work about once every twenty years, and during the intervals to prepare additions or Addenda as attempts to keep pace with the progress of the times. Thus the first edition came out in 1854, the second in 1867 and the third in 1885; having once allowed 18 years to elapse between two editions, this seems to be regarded as a precedent, so much so that the idea of issuing a fourth edition before 1900, is apparently too daring for serious consideration.

However, half a loaf is better than no bread, and an Addendum is better than nothing at all. The General Medical Council formed a Committee under the Chairmanship of Dr. R. Quain to consider the preparation of the Addendum, and invited pharmacists to aid them in so doing. A sub-Committee was therefore formed including a number of our foremost pharmacists.

On the 3rd of December, 1889, a letter signed by the Chairman of the Committee, was addressed to each of the 20 medical bodies represented on the General Medical Council, and to the Pharmaceutical Societies of Great Britain and of Ireland. This communication stated that the Committee desired to obtain accurate information as to which of the comparatively new medicines and compounds possessed "well recognized medicinal value" and had received the ' general approval of the medical profession." The Pharmaceutical Societies were invited, as already intimated, to coöperate in suggesting definitions and methods of preparation for the medicines and compounds proposed for introduction into the Addendum.

Of the twenty medical authorities written to, lists of such new compounds and medicines were sent in by twelve, made up of 4 English, 6 Scotch, and 2 Irish; and the total number of suggestions was 138. An analysis of the list shows that analgesin alone was recommended by all the institutions; strophanthus by 10; lanolin and saccharin received each 9 approvals; acetanilid and hamamelis 8 each; sulphonal and tereben 7 each; euonymus 6; and ext. malti, iris versicolor, paraldehyd, nitrite of sodium, and syr. hypophosph., each 5 approvals. Five other medicaments received the votes of 4 authorities; nine, those of 3; twenty-two, those of 2; and eighty, that of a single body.

The 138 were sifted down by the Committee— not by an at all evident principle of rejection—to the 39 named under—which are recommended for inclusion in the Addendum (1890) to the B. P. 1885:

1. Acet. ipecac.
2. Adeps lanæ (lanolin).
3. Emp. mentholi.
4. Eucalypti gummi.
5. Euonymus atropurp., (preparations of).
6. Ext. hamam., liquid.
7. Ext. hydrast., liquid.
8, Ferri subchlorid., (preparations of).
9. Hamamelis Virgin.
10. Homatrop. hydrobrom.
11. Hydrast. Canadens.
12. Liq. cocain. hydrochlor.†
13. Liq. morph. sulphat.
14. Liq. trinitrinæ, 1 p. c.
15. Magnes. sulph. efferves.
16. Mist. olei recini.
17. Ol. cadinum.
18. Paraldehydum.
19. Phenylon (antipyrin).
20. Pilula ferri (Blaud).*
21. Picrotoxinum.
22. Saccharinum.
23. Sodii benzoas.
24. Sodii nitrico,
25. Sodii phosph. efferv.
26. Sodii sulph. efferv.
27. Stramonii folia,
28. Strophant. hispid. semina.
29, Sulphonal.
30. Suppos. glycerin.
31. Tinct. hamam.
32. Tinct. hydrast.
33. Tinct. strophant.
34. Trochisii sulphuris.
35. Ung. corii.
36. Ung. hamam.

It will be observed that the English authorities stand alone in proposing to include the substances already known all over the world as antipyrin and lanolin, under the pseudo-scientific titles "phenylon" and "adeps lanæ." The motive of this is, apparently, to avoid, after the patent rights in the articles have run out, encouraging the use of any particular brands, and is so far justifiable, but at the same time it may be doubted whether the new names will be generally adopted.

It is also worthy of comment that some of the medicinal agents best known and most valued on the Continent —notably ichthyol and salol—have not yet attracted much attention in England, while some of those considered valuable by one or more of the medical authorities in the United Kingdom, are scarcely recognized in the Materia Medica of the Continent. Thus for instance the new German Pharmacopœia (3rd edition) entirely rejects the once official benzoate of sodium which is just recommended to a place in the B. P. Addendum !

As to the particular direction in which pharmacy will find employment in the work, an indication is given in a paragraph which is devoted by Dr. Attfiield, the official reporter, to the consideration of a suggestion of the Edinburgh University for the officializing of tabellæ. The Professor says: "This almost necessarily raises the more general question as to how far it might be desirable for the Pharmacopœia Committee of the Medical Council to invite the Pharmaceutical Societies of Great Britain and Ireland, one or the other of which will probably include all the active members of the British Pharmaceutical Conference, to advise in due time, in what cases and in what degree, objectionable appearance, odor, bulk,etc., of officinal medicines may be so masked or minimized, or the remedies be so altered altogether in form, or have such a new form given to them, as to render them more acceptable to patients." This is a significant if somewhat involved suggestion which would tend very much to create harmony and the spirit of coöperation between the members of the sister professions, medicine and and pharmacy.

---

* An alternative to Pil. Ferri Carb , B.P. 1885.

† Ten per cent., in water saturated with salicylic acid.

The only other subject of pharmaceutical interest just now is what has been called the "President's campaign." This simply consists of a series of visits made by the President of the Pharmaceutical Society (Mr. M. Carteighe) to different parts of London where the local pharmacists can be got together to hear him. He discourses to a great length on the history of pharmacy, on the difficulties of legislation, and on the importance of backbone in pharmacy, always winding up with the moral that the members of the trade should support everything the Pharmaceutical Council proposes to do, and join the Society *en masse*. At several of these conferences the chemists have pledged themselves to support their Executive, and the gatherings seem likely to be distinctly beneficial in bringing about union in the craft.

PHARMACEUTICAL NEWS FROM GERMANY.

The New Arzneibuch—Salipyrin; Another Antipyretic—Arcolin; an Active Principle of Areca Nuts.

The present edition of the German Pharmacopœia came into force with the first day of 1883, and therefore at the end of this year it will have seen the completion of eight years of existence. On the last day of 1890 this so-familiar companion of the pharmacist and student will, at least officially, cease to exist, but in its place, Phenix-like, will spring up the new *Arzneibuch*, a reproduction and development of its predecessor.

This is what may be termed a spring period in the cyclical life of European Pharmacopœias, when a general movement is taking place after more or less prolonged periods of inanition. With some the change is only just commencing, others have already passed through it and appear, so to speak, in fresh foliage, while others yet are still occupied in shaking off the last few dead leaves and in opening the buds of new ones.

In 1887 the Bundesrath decided to appoint a "Permanent Commission," who should be entrusted with the task of preparing for the revision and completion of the Pharmacopœia. Twelve representatives of clinical and practical medicine, of pharmacology, of pharmacognosy, and of applied chemistry and pharmacy, were selected, and work at once commenced. After a little over three years the result has taken definite form in the completion of a new edition, which becomes the legal standard on Jan. 1st, 1891.

The first duty of the Commission was to collect the accumulated material and carefully examine it. At the end of 1888 the preliminaries were so far advanced that the work could be divided among the members of the sub-Committee selected from among those of the Commission. There were first criticisms of the remedies already in the Pharmacopœia, for which alterations or extensions were suggested, and also, of course, proposals for the introduction of new ones; the numbers of novelties suggested amounted to no less than 1,240!

After the mass of work had been well grappled with and more or less reduced to order and system, the sub-Committee was called together in June, 1889. It was soon found that the alterations proposed were of so fundamental a nature that the idea of a mere appendix to the second edition would have to be abandoned in favor of an altogether new work.

During the week ending October 19th the whole Commission met together. The particular interests of veterinary medicine were represented by a teacher of the Veterinary High School in Berlin, and those of other branches of medicine were similarly cared for. As regards the language for the new Pharmacopœia, the "Bundesrath" decided on Nov. 21st, 1889, that it should be German, though the titles of the individual articles should be, as previously, in Latin, with the German equivalents appended. The adoption of the National language is indeed so thorough that the name "Pharmacopœia" itself has been rejected in favor of "Arzneibuch," though one cannot help doubting whether the former, which is so well established and International in character, will be entirely displaced.

The twelve hundred odd novelties suggested for addition to the Pharmacopœia, were by a process of elimination soon reduced to 90, and out of these the following were eventually selected:

1. Acetanilidum.
2. Acid. nitr. crud.
3. Acid. trichloracet.
4. Adeps benzoat, D.
5. (Æther bromatus), D.
6. Agaricinum.
7. Albumen ovi sicc.
8. (Amylen. hydrat.)
9. Antipyrinum.
10. Bals. tolutan.
11. Capsulæ.
12. Chinin. tannic.
13. Chloral formanid.
14. Cocain. hydrochlor.
15. Codein. phosphor.
16. Cortex Quillaiæ.
17. Cuprum alumin, D.
18. Emp. canth. (veterin.), D.
19. Ext. Condurang., fluid ⎫
20. Ext. Frangul., fluid ⎬ D.
21. Ext. Hydrast., fluid ⎪
22. Ext. Secale corn. fluid ⎭
23. (Ferr. citrii, oxidat.), D.
24. Gutta percha.
25. *Homatrop. hydrobrom.*
26. *Hyosc. hydrobrom.*
27. Keratinum, D.
28. Liq. Ferri album. ⎫ D.
29. Liq. Ferri iodat. ⎭
30. Mentholum.
31. (Naphthalinum).
32. Naphtholum.
33. Natrum thiosulph.
34. (Paraldehydum).
35. Phenacetinum.
36. (*Physostig. sulph.*)
37. Resorcinum.
38. Rhizoma hydrastis.
39. Rotulæ sacchari, D.
40. Salolum.
41. Sebum salicylic, D.
42. Semen arecæ.
43. Semen strophanthi.
44. Species diureticæ, D.
45. Sulphonalum.
46. Terpinum hydratum.
47. (Thallin. sulphurii.)
48. Tinct. strophanthi, D.
49. Ung. acid. boric, D.
50. Vinum condurango, D.

The names in brackets are those of remedies to be preserved from light and moisture, and those in *italics* of substances classed as "poisons," while the "D" is added to those preparations for which methods of manufacture are given.

Further, the following classes of Galenicals are also included:

51. Electuaria.
51. Emplastra.
53. Extracta fluida.
54. Granula.
55. Linimenta.
56. Pastilli.
57. Pilulæ.
58. Styli caustici.
59. Suppositoria.
60. Tabulæ.

The medicaments named under, which are in the Pharm. Germ. II, are not included in the new Arzneibuch:

1. Acetum digitalis.
2. Acid. carbol. crud.
3. Acid. hydrochl. crud.
4. Antidot. arsenici.
5. Aq. aurant. flor.
6. Av. menth. crisp.
7. Calc. phosphor. crud.
8. Castoreum.
9. Chinin. bisulphur.
10. Chinoidinum.
11. Codeïnum.
12. Cuprum oxydat.
13. Dec. sars. co. mit.
14. Ext. aconit.
15. Ext. cannab. Ind.
16. Ext. digital.
17. Ext. graminis.
18. Ext. helenii.
19. Ext. quassia.
20. Ext. sabinæ.
21. Tinct. scillæ.
22. Folia menth. crisp.
23. Fruct, phelland.
24. Gelat. carrageen.
25. Gelat. lichen's Isl.
26. Glandul. lupulæ.
27. Herba cannab. Ind.
28. Hydrarg. iodat.
29. Lactucarium.
30. Laminaria.
51. Lin. terebinth.
32. Liq. corrosivum.
33. Liq. ferr. sulph. oxid.
34. Mangan. sulph.
35. Morphino. sulphuric.
36. Natrium benzoic.
37. Ol. aurant flor.
38. Ol. cajeputi.
39. Ol. cocos.
40. Ol. rapæ.
41. Plumb. iodat.
42 Radix helenii.
43. Radix liquirit. (Hisp.)
44. Rhizoma graminis.
45. Rhizoma imperat.
46. Rhizoma tormentill.
47. Summitates sabinæ.
48. Syr. aurant. flor.
49. Tinct. aloes.
50. Tinct. assæfœtid.
51. Tinct. cannab. Ind.
52. Tinct. castorei.
53. Tinct. chinoidini.
54. Tinct. croci.
55. Tinct. ipecacuanh.
56. Ung. sabinæ.
57. Vinum chinæ.
58. Zincum sulphocarbol.

Among changes in nomenclature, the following may be mentioned as noteworthy: Pyrogallolum instead of Acidum pyrogallicum; Kalium dichromicum instead of K. bichromicum; Siruptus instead of Syrupus.

The variations in standard tests and composition are somewhat numerous; thus for instance distilled water is now tested for its oxydizing power and a number of substances are officially required to be of higher quality than formerly, among which may be mentioned assafœtida the ash-content of which must not exceed 6 per cent., (formerly 10 per cent.). Elastic collodion now contains turpentine as well as castor oil, and ammonia liniment is ordered to be thinned when necessary by the addition of alcohol; syrup of iodide of iron is made by gradually adding powdered iron to the mixture of water and iodine, afterwards mixing the concentrated solution of iodide with syrup. Under Morphinum hydrochloricum we notice the sentence "when Morphinum aceticum is ordered for subcutaneous injection, Morphinum hydrochloricum should be dispensed."

More details are given with regard to the commutation of drugs; three degrees, coarse, medium-fine and fine are recognized both of drugs and powders. Special sieves are also mentioned with meshes of indicated width.

Although the Pharmacopœia is therefore complete, the stream of new remedies has by no means ceased to flow; almost every week sees the introduction of some therapeutical novelty which is destined to be "a valuable addition to Materia Medica." One of the latest of these is Salipyrin, a compound in simple molecular proportions of salicylic acid and analgesin. It can be prepared by heating the two substances together in a water-bath without or with a little water; an oil-like liquid is formed which solidifies on cooling. Or the analgesin is dissolved in water, the salicylic acid in ether and the two solutions powerfully shaken together; the salt, practically insoluble in water, and only difficultly soluble in ether, slowly separates out in beautiful crystals. According to the patent specifications Salipyrin is a white, coarsely-crystalline, odorless powder with a not unpleasant somewhat astringent sweet taste. It is soluble in alcohol and benzole, difficultly so in ether; and very difficultly in water. Prof. Spica, of Padua, who has worked on the compound gives as the solubility in boiling water 4.4 in a hundred and in cold water 0.4 in a hundred. The melting point is 91.5° C. Analysis showed the composition of the salt to be $C_{11}H_{12}N_2O.\ C_7H_6O_3$. We still await the publication of therapeutical reports but so far as the experiments are said to have yielded very favorable results.

Areca catechu cultivated in India and China is the source of the familiar areca nuts used (mostly in veterinary practice) as an anthelmintic. E. Jahns obtained from the nuts three alkaloids, only one of which seems to have anything to do with the medicinal properties of the drug. Arecoline ($C_8H_{13}NO_2$) is an oily liquid alkaloid forming definite salts and very poisonous; the hydrobromide was found by Prof. Marme (*Schmidt's Jahrb. d. in.- u. ausl. ges. Med.*) to act on the heart and respiration, to stimulate intestinal peristalsis, and, when applied to the eye, to contract the pupil. The general physiological phenomena which followed its administration resembled those of muscarine. The powdered nuts (which contain 0.7 to 1 per mille) should be alone used, or the fluid extract, and the dose should not exceed 1 to 1½ drachms, proceeded and followed by a dose of castor oil.

NEW YORK LETTER.

JULY 8th, 1890.

My letter for this month has been delayed, owing to the general closing down of business amongst wholesalers in this city over July 4th and 5th. It was pleasant to see the universal patriotism shown by the merchants in this city, in their willingness to abandon to pleasure Saturday, July 5th, as well as the regular National holiday of the 4th. We like to attribute this generosity to patriotism, as it appeals to our more exalted manhood; and if there is a lurking suspicion behind this, that the very dull condition of trade had something to do with it, we will put it out of sight. Nevertheless the fact remains, that there is a great depression in wholesale drug circles, and has been for many months past. We are longing and waiting for the adjournment of Congress; whether they pass the Tariff Bill or whether they let it alone, we then will be sure, at least, of the condition of prices for a few months ahead. But until Congress has taken some definite action, or adjourns, no very important transactions can be expected.

The general tendency of the market throughout the month has been downward, although there are a few exceptional cases in which prices have advanced, notably amongst which is:

Opium.—The first receipts of the new crop have come in from Smyrna, and they are accompanied with the usual cry of "failure of crop," but up to the present hour no definite information of a reliable character, upon which any opinion can be based, has come forward; nevertheless there has been a marked advance in the article, both abroad and here. There seems but little disposition on the part of holders to sell; and on the other hand, there is no anxiety on the part of buyers to purchase beyond actual wants. This makes a steady market, and as the stocks in hand in America are not excessive, the general impression is that still higher prices will prevail.

Morphia, as result of this steady advance in opium, has been in very active demand, both for consumption and on the part of speculators. The manufacfactures of the article are not anxious to make contracts ahead, and on the whole there is every reason to believe that higher prices will be realized.

Quinine has remained depressed, and is so to-day. Probably the imported brands of this salt can be bought for less money than ever before. The feeble effort on the part of speculators, that developed during the month of May, to advance prices, has subsided. Demand is light, stocks abundant, making the article, in a commercial sense, weak.

Guarana, is in very short supply. Probably in first hands in the city of New York, not more than 600 lbs. of the article can be found. One seller seems willing to offer still a few pounds at $2.75, but all the rest are firm at $3.00 per lb., and I believe that it has not yet reached its limit of value.

Cream of Tartar and Tartaric Acid are in exceedingly active demand, but as supplies are abundant, there has been no advance in price, nor is any anticipated.

Citric Acid is in very heavy demand, but steady at manufacturers' prices.

Jalap Root remains unchanged. Very light supplies are coming forward, and there is no yielding of the present high valuation.

Mexican Sarsaparilla Root has never before been in such light stock. Prices are high and will continue so.

Sugar of Milk has been coming forward in rather more abundant supplies, but not sufficient to meet the demand. It therefore remains high, and there is no prospect of lower prices until September, when the product of the present summer will be coming forward.

Peppermint Oil has continued its upward tendency reported in my letter of last month. Very heavy sales have been made, and it is confidently believed that still higher prices must be obtained.

Jamaica Ginger continues upward. Demand is very active and stocks not very large.

Buchu Leaves are in abundant supply, reports of certain trade papers to the contrary notwithstanding. There is no reason why there should be any advance in value.

Chamomile Flowers, both of German and Roman varieties, are coming forward freely of the new crop; prices therefore are yielding. Qualities are unusually fine this year.

Gum Arabics of the higher grade are absolutely wanting and cannot be obtained. Fair Seconds are now sold as First picked, at enormous prices.

Cacao Butter is advancing abroad rapidly, and its price here in New York is firm and the demand active.

Insect Flowers for this season of the year are in very slight demand, and prices are ranging very low.

Norwegian Cod Liver Oil is arriving very freely. Prices are exceedingly low. This is a most favorable time for buyers to lay in supplies.

Golden Seal and Mandrake Roots are in enormous supply, and also in fair demand. In the former very large sales have been made, but for the latter there has been no demand worth mentioning.

Menthol continues very scarce and high, and the advanced prices have enabled importers to rid themselves of stocks of very low quality, although of genuine Japanese variety. There has been a great deal of carelessness on the part of manufacturers in Japan, in sending forward menthol carrying so large a percentage of free oil. There is an effort on the part of importers to have this matter corrected, and we believe they will succeed.

Rhubarb is in very heavy supply,—present valuations low, and tending downward.

Ipecac.—More abundant supplies have come forward, and there has been a small yielding in valuations, although very slight.

THEY ALL RESIGNED.

The Faculty of the Chicago College of Pharmacy Angry—An Old Quarrel Revived—Serious Charges against President Forsyth, of the Board of Trustees—What He Has to Say.

There is a pretty "to-do" in the Chicago College of Pharmacy. At the regular monthly meeting of the Board of Trustees held last Tuesday, the Faculty of the Institution, consisting of Professors Galloway, Bastin, Stuart, and Garrison, tendered their resignations. The reason given for the action was, that certain members of the Board had persistently treated them in a shameful and disgraceful manner, and that the only course left to them was to resign. The announcement came like a thunderbolt out of a clear sky. The breach that occurred between the Faculty and certain members of the Board a few months ago, was supposed to be entirely closed. For some time things have been running smoothly, and all was peace and harmony—on the surface.

The meeting at once became a scene of wild confusion. Questions poured in from all sides. Criminations and recriminations were freely indulged in. Some of the Trustees so far forgot themselves as to call hard names. When the matter of the resignations came to vote, the Board was nearly unanimous in refusing to accept. Only two members—H. Biroth and R. E. Rohde—voted in favor of acceptance.

A special meeting was called, and is being held this afternoon for the purpose of hearing the specific grievances of the Faculty, and to see if the matter cannot be amicably adjusted.

The trouble had its origin in the early part of March. At that time the Faculty, believing that it would be to the best interests of the College, advocated making it a department of Lake Forest University. This move, for some unknown reason, was bitterly opposed by President W. K. Forsyth and Trustees A. Ebert, C. S. Hallberg, and F. Frerksen. At the annual meeting held March 21th, the matter was discussed and, for the time being, abandoned. The trend of opinion, however, was shown that day by the election of an entirely new Board and new officers, with Thomas Whitefield as President. The new management was wholly in sympathy with the Faculty. Forsyth *et al.* did not tamely submit to be thus put aside. The following week the new Board held a meeting. In the midst of it, ex-President Forsyth and his supporters walked in and took possession. With them was Lawyer Edwin Walker. The charter was produced to show that the election was illegal because held in March, instead of April as provided by the charter. That document also provided that the College should be governed by a Board of sixteen Trustees, elected annually, and that the Trustees should elect the officers. The election had been held under a By-Law which made the Board consist of ten, two of whom were elected annually. The officers, too, had been elected by the members of the College instead of by the Trustees. For the purpose of keeping the matter out of the courts, the new Board agreed to hold a joint meeting with the "kickers." The meeting was held and resulted in a compromise. Mr. Forsyth was re-elected President; a new Board of sixteen Trustees was elected; everybody shook hands over the chasm, and all agreed to bury the hatchet and work in harmony for the good of the College.

The trouble, however, would not down, and now bids fair to end in a big row. Professor Galloway was seen by a reporter for the *Evening Post* to-day and asked to give a statement of the situation. He refused, saying that the trouble would probably all be smoothed over.

"How?" was asked.

"The majority usually rules," he replied. "I think when the opposition see that they are hopelessly in the minority they will get out. The whole trouble arose from two or three men who thought they owned the College and wanted to run it. They found that the Faculty would not dance to their music."

President Forsyth claimed that he didn't know just what the difficulty was, and supposed until recently that perfect harmony reigned. "They don't state what they are dissatisfied with, and I honestly don't think they could tell when asked," said he. "Galloway is the man who has caused all the trouble. He is the 'Pooh-bah' of the institution and wants to pull the reins. In short, the Faculty want to run things, which they have no more right to do than my clerk has to run my business. Supposing my clerk should tell me that he was dissatisfied. I would, on business principles, tell him to get out. The Faculty is in exactly the same position, and if all the Trustees felt as I do, the matter would be settled in a short manner. I would fire the whole lot of them. Why, the charter distinctly states that no member of the Faculty shall have anything to do with the management of affairs. Galloway insisted on being elected Secretary. When he sent out notices of the last election he omitted those whom he knew favored me, or at least left the date of the election blank. The meeting was packed with students and members who had been expelled years ago. I do not know how it will end."

"Are most of the Trustees opposed to the Faculty?"

"No, they are about equally divided. The Faculty are the only ones who are getting any money out of the thing. They do not seem satisfied with getting all the milk out of the nut, but they want the nut itself. I don't think they will get it."

President Forsyth could hardly have been serious when he stated that he knew not what the difficulty was.

The charges made against him and Mr. Ebert are of a grave and slightly sensational character. Several of the Board were visited and were free to state what the charges were. Among them was Adolph Karpen, who, if any one can be, is without prejudice in the matter. "I was told," said he, "on reliable authority, that both Forsyth and Ebert have constantly visited the College and interfered in a dictatoral way with the work of the classes. Ebert is not a member of the Board, but is a member of the Business Committee. They have not only done this, but worse. Forsyth, it is alleged, has visited the College several times when he was under the influence of liquor, and has in open meeting and before the students heaped personal abuse upon the Professors. No man would stand such treatment. I myself heard Biroth call Professor Garrison a liar in one of the meetings. That angered me so that I got up and said that if any one used such language again I would see that he was fired out bodily."

"What do you think is their motive?"

"I am convinced, as nearly everyone is, that they want to fire Galloway and Bastin to make room for some others."

"Who are they?"

"Why, the long and short of it is that Ebert and Hallberg want the places. They think it would be a good thing to fall into such a snap. Ten years ago a Professorship was not worth having. Now it pays a handsome salary."

"Is this the only motive?"

"I understand that they also have a scheme for consolidating with the Illinois College of Pharmacy. The latter was never a paying institution, and they want to drag it out of the mire by hitching it onto our College."

Every Trustee visited by the reporter was unstinted in his praise of the Faculty. It was due to the Faculty's efforts alone, they said, that the College had taken a rank second to but one in the United States.

The chances are that Forsyth and his friends will be invited to step down and out, and, if they refuse, will be helped out.—Chicago *Evening Post*, June 20th, 1890.

A WORD TO THE PHARMACIST.

"A word to the wise is sufficient."

It is a curious fact, that the pharmacist is frequently called upon to answer the question: "Would you advise me to have my son learn the drug business?" It is much to be regretted that parents should have so little knowledge of a son's disposition, or tendency, as to feel the necessity of seeking advice from the pharmacist whose opinion in the matter must be in a great measure governed by the general appearance and make up of the boy.

In the eyes of the pharmacist, as a rule, a bright, intelligent face, together with neatness of person, is sufficient to recommend him at once as a promising follower of Esculapius, and he is entered upon a life of drudgery, the disadvantages of which he realizes too late.

Taken at an age before an aptitude for any particular vocation has developed itself, he is sacrificed by prevailing ideas, which are as erroneous as they are common, to a business for which he may possess as little fitness as he has liking for it; once in, however, there he is destined to remain. Should he in the course of time express an aversion for it, this is wilfully attributed to indolence, and he is either compelled to remain, or is induced to do so, by an assurance of the brilliant future that awaits him, and the fabulous profits that will be his when he becomes a proprietor. Stimulated by these and other similar delusions, he goes on from apprentice to clerk, and it is in this capacity, condemned to work from fourteen to sixteen hours a day, that the injustice under which he must labor is made more fully apparent to him. He is debarred from social pleasures, and becomes in consequence morbid, and irritable; this constant application to business, however, is considered by his friends as an advantage rather than a detriment, as he is thereby prevented from spending his evenings at questionable places of amusement, and is enabled to save the money that would be spent, had he more time at his disposal. The few leisure moments that fall to his lot during the day, must not be wasted in the perusal of some pleasing literature, but are the golden opportunities that must be utilized in preparing himself for examination before the Board of Pharmacy. He is, however permitted one evening a week, in which to discharge his social obligations, attend to his religious duties, visit his friends, and otherwise enjoy himself; and so it goes from one year's end to another, until he succeeds in starting business for himself, only to find that he is more than ever a slave; as before he served but one master, now he serves many—he is a slave to the public.

Is this an exaggerated view of the average pharmacist's life? I think not. How many men, who have spent their years in the drug business, have not wished many times they had been placed at something else when they were too young to decide for themselves? How often has his soul cried out against a fate that compels the sacrifice of his own interests, to shield some blundering physician from public condemnation? How often in his heart has he rebelled against the injustice of an exacting public, that shows him neither consideration, or mercy, only to realize that he must stifle these natural impulses, the utterance of which would be his ruin, until broken down in health, and cowed in spirit, he thanks God he is permitted to live?

In view of this, let the pharmacist hesitate in giving advice which frequently results in such disastrous consequences.

GEO. L. FUNNELL.

185 Main Street, Stamford, Ct.

ANSWERS TO CORRESPONDENTS.

W. M. L. (Ill.).—The plant you forwarded to us, stating it to be used in dysentery, is what is commonly known as St. John's wort, or, botanically, as *Hypericum perforatum*, Lin. It is reputed a diuretic, astringent, and sedative, and has been employed successfully in a great variety of diseases connected with the urinary apparatus. We have no particular record of its use in dysentery, but we presume that its astringent property would commend it at once for such a purpose.

T. H. G. (Ark.).—The plant you send us for identification, under the name of Snake-bite weed, proves to be the *Asclepias verticillata*, Lin. The use of this plant for that purpose has not been hitherto recorded, although other very closely allied species, such as *A. Mexicana*, Car., have been to our knowledge, used for a similar purpose.

Experience with preparations of such plants has been very unsatisfactory, it having been found that the remedies (if they are such) lose their virtue when dried, and their use consequently must remain strictly local.

O. A. K. (Ohio).—We cannot do better in replying to your query than quote the following on Pharmaceutical Education, from the last catalogue of the Illinois College of Pharmacy, written we presume by Prof. Oscar Oldberg:

"All American colleges or schools of pharmacy, of which there are now about thirty, divide their course of education into two parts, one called the Junior course, and the other the Senior course. Each of these two so-called courses usually occupies about five months. But they are not separate and distinct courses, for the Junior and Senior courses together constitute one complete course of education and either is incomplete without the other.

"A systematic course of education in any science or profession must be continuous as far as possible. Long interruptions are always detrimental.

"A thorough education is attained only with great difficulty when the student's time is divided between his school work and other employment. The education obtained under such circumstances is necessarily correspondingly superficial and very dearly bought.

"The expense of board and lodging is always greater than the cost of tuition, and is the same whether the amount of work done be great or small. Therefore a course at college with only half enough work to do is a serious waste of time and money.

"Whenever there is a great difference in the amount of instruction included in the 'required work' by any two colleges of pharmacy, that difference will nearly always be found to occur mainly in the laboratory work.

"Laboratory work is an absolute necessary part of a thorough pharmaceutical course. In any course of instruction in pharmacy where the total amount of instruction is only from ten to sixteen hours weekly, it is of course, impossible to devote any considerable portion of that time to laboratory work, for less than eight hours weekly devoted to lectures and reviews would be inadequate, and at the same time it would be almost useless to devote less than sixteen hours weekly to laboratory work alone. In colleges where the total school work is over thirty hours weekly, fully two-thirds of that time is devoted to the laboratories. Thus the students are by no means over-taxed, for laboratory work does not demand additional text book work or study. On the contrary it is the most interesting and profitable recreation that the students can have, as they themselves are always ready to heartily testify, and it lightens their work and studies very materially when properly arranged."

Book Reviews.

Kew Gardens Bulletin, June, 1890.

Attention is called in article CXLVII of this issue to "Compressed or Tablet Tea." An interesting description of the method and apparatus used in preparing the blocks is followed by a summary of the claims made for this method of packing. "It is claimed for this tea that it has many advantages over loose tea, the chief of which is that the leaves being submitted to heavy hydraulic pressure, all the cells are broken, and the contents of the leaf more easily extracted by the boiling water, thus effecting a considerable saving in the quantity required for use.

"Its great advantages over loose tea, however, would seem to be its more portable character, and in the case of long sea voyages, or for use in expeditions, the reduction of its bulk to one-third.

"The compression of tea into blocks further, it is said, constitutes a real and important improvement in the treatment of tea. These blocks weigh a quarter of a pound each, and are subdivided into ounces, half ounces, and quarter ounces; this insures exactitude in measuring, and saves the trouble, waste, and uncertainty of measuring by spoonfuls. It also ensures uniformity in the strength of the infusion.

"By compression it is claimed that the aromatic properties of the leaf are retained for a much longer period, and that it is better preserved from damp and climatic changes."

The only drawback to the new method of marketing tea as described above, consists in the greater ease with which adulterated tea would find a sale.

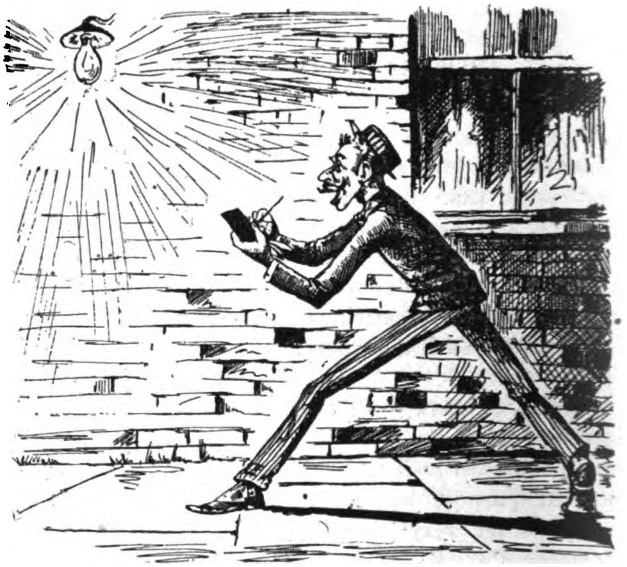
Facetiæ.

THE REPORTER'S DREAM.

A FABLE FOR GOOD LITTLE PHARMACISTS.

Many, many years ago, in the days when men hustled, and the race for first place was neck and neck, there lived a reporter. Now in those days a reporter was a person who took one atom of fact, placed it under the magnifying glass of an intensely fevered imagination, and then told the truth about what he thought he saw—at least the truthful reporters did, the others simply let imagination run wild with this poor little atom and then deliberately lied about the enlarged product. It is only simple justice to state that *this* reporter belonged to the former class. He lived in a great city; reported for a great daily; and his youthful heart fairly yearned to do something that would make his fellow scribes' eyes bulge and their faces grow verdant with envy. One day he sat in his den thinking; you could tell he was thinking because his pen was idle. It was not considered etiquette among reporters then to think and write at the same time. So he sat and thought, while Phæton drove his chariot slowly past the zenith and started down the home-stretch towards sunset, while a busy world toiled on, fought on, suffered on, while little life-tapers were lit by some unseen hand and old burned out life-candles snuffed in the same mysterious way, he sat on thinking, thinking, thinking, in a frantic endeavor to get sufficient particles of thought together to form this one atomic idea upon which he would rear a fictional structure which would have made Ananias or Baron Munchausen shed bitter, envious tears.

At last, as the sun was slowly setting, he started violently as though a thousand-volt electric current had struck him, placed his fore-finger upon his right temple, and said: "Ha!" They always said "Ha!" in those days when they were struck with an idea. This was the first time this reporter had ever said "Ha!" Five minutes later he was sitting in a physician's office a block away. Ten minutes later, he had found out from a wholesale druggist, the actual (?) cost of the ingredients called for by the prescription which he had procured. Fifteen minutes later he had started on a round of the retail pharmacists to see what this prescription, compounded, would cost. How he sped from place to place through the darkness! How his face lit up with devilish glee as he heard Jones say "forty cents," and Brown "eighty!" How maliciously he pulled the night-bell at Smith's store to get quotations on his "twelve-cent" prescription; and then how he chuckled as the poor tired clerk said, with a yawn in his mouth and profanity in every movement, "Fifty cents, please!" Twenty-four hours later he was back in his den, writing as though his life depended on each stroke. Faster and faster flew the pen as sheet after sheet of manuscript fluttered to the floor, and he paused not nor tarried till the clocks toll'd midnight, till he had told his experience and grossly misrepresented certain features of one of the most important branches of commercial activity. He leaned away back in his chair, lit his pipe, and smiled blandly. Ere the morrow's sun was an hour old, and while the silken cords of Morpheus still held him captive, he would be famous. Slower and slower came the puffs of smoke; lower and lower sank his head upon his chest. The pipe fell from his parted lips and broke into a dozen pieces on the floor. He was fast asleep.



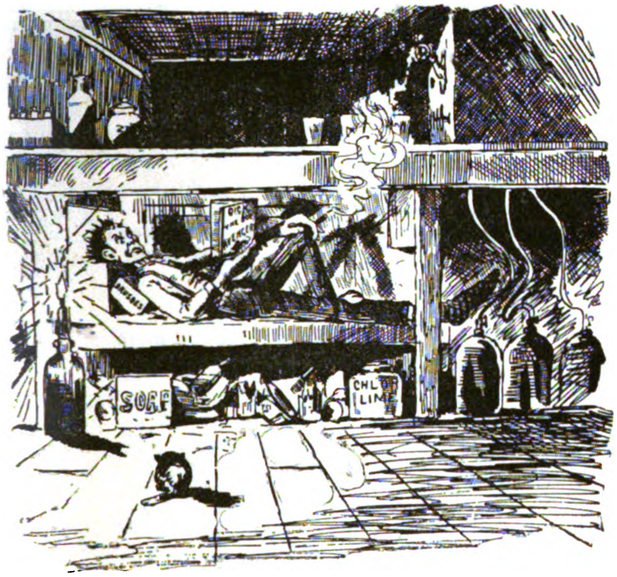
"HOW HE SPED FROM PLACE TO PLACE!"

* * * * * * *

A long, lank, awkward boy, of some fifteen summers, stands at the desk behind which sits gruff old Peleg Bolus, a druggist and stationer in the town of L——. The youth has just poured into the ears of old Bolus the one mad dream of his life. He would be a pharmacist. His parents think he is not strong enough to work hard, so they have decided he shall study drugs, shall compound prescriptions, and some day, perhaps, own a fine silver-plated city pharmacy and a steam yacht, get elected to Congress, and finally end his brilliant career by becoming President of the United States. (Any boy who starts in the drug business with a meaner ambition than to become tenant of the White House, lacks the true spirit of a pharmacist.) Old Bolus wants a boy, and thinks this boy will answer. He is informed that he may start work Monday morning promptly at 7 o'clock; that he will have to sleep in the store, and as soon as possible answer night calls. His salary for the first year, shall be the satisfaction of having become one of Galen's chosen few. He shall spend so much of his time during the second year trying to make his youthful aspirations and the stern reality even up, that he will forget all about salary, and the third year his heart will expand with joyful anticipation at the prospect of soon being released from the bonds of apprenticeship. With a few parting words of advice as to promptness, and the best means of investing his surplus income, old Bolus bow'd and the youth retired.

At a quarter past five on Monday morning this ardent youth was standing in front of old Bolus' store ready to commence his tussle with chemistry, pharmacy, etc. At seven o'clock old Bolus opened the door and our enthusiastic youngster commenced his drug career by triturating the floor and pavement with a wisp of *Sorghum saccharatum* tied to a stick.

During the first month he was initiated into the mysteries of washing bottles, running errands, and selling soda water. He remained at his post till ten o'clock each evening, and if during the day his store duties became monotonous and he longed for something with more swing to it, he was permitted to take an axe, break up boards and packing cases in the cellar, and carry them up two flights of stairs for Mrs. Bolus. This prevented him being consumed with *ennui* induced by his light labors in the store. After ten o'clock he had the rest of the night for study and sleep. He was apportioned sumptuous sleeping aparments under one end of the counter, and twice each month got a half holiday.



HE HAD THE REST OF THE NIGHT FOR STUDY.

By the time winter arrived he was far enough advanced to dispense prescriptions and attend night calls. It was too cold to sleep in the store, so he was given a small room on the first floor above, which was reached only by a side street entrance, and so expert did he become in his work that he could carry a lighted candle all the way from this side entrance to the front of the store, through a blinding snow storm, without putting it out. This particularly pleased old Bolus, as it saved the expense of relighting the candle. The long hours and close confinement made his face look thin and pale, and his form slight, but as these were considered symptoms of superior intelligence, he took a certain pride in his semi-etherial appearance. The three years of his apprenticeship were marked by an increase of thinness physically, an added stock of pharmaceutical knowledge, and a certain well-defined doubt as to whether pharmacy really was the highway to *El Dorado*. In due time he presented himself for examination before the State Board of Pharmacy and was "plucked." However, as he found upon investigation, that three-fourths of the registered and successful pharmacists had also failed in their first attempts, he took courage, studied day and night, and was finally graduated with due honors.

A NIGHT CALL.

His father having a goodly portion of this world's goods, assisted him in establishing a business in a neighboring city. He possessed good business capacity, was a hard worker and economical, yet he did not appear to lay up vast hoards of wealth in the bank, and the time spent in clipping the coupons from his railroad and mining stock did not materially interfere with business. After three years spent in this fashion, he sat down one evening in his store to work out a certain problem. He naturally wanted to have a home, but did not see how a man could enjoy one when his evenings were spent in his place of business. He found that for the seven years of his career in pharmacy he had worked a daily average of fourteen hours, and that his income for the three years of his independent (?) business life had been a trifle over $1900.00 per year, or about 36 cents an hour. Now if he had been working in a good wholesale or manufacturing establishment for as long a time, he would have, undoubtedly, been getting, at least, $1500.00 a year, or about 58 cents per hour, not counting the leisure time and absence of business cares. True he would have a smaller income by four hundred dollars, but of what use was the extra amount if he had no time in which to enjoy it? Then he thought of the unjust way in which the public, ignorant of the true inwardness of the drug business, looked upon his dealing. He thought of the squibs got off in comic papers, by alleged "funny writers," about 200 per cent. profit, etc. He called to mind the old college chestnut, stories about inordinate charges, and big profits; he remembered that he dare not charge twenty-five cents for an ounce bottle of paregoric. when he had to get out of bed at 2 o'clock A. M. to sell it, because during the day his customer had had "that same bottle filled for a dime." He thought of all these and a great many more hardships of a pharmacist's life, placed them opposite the comparatively small income, and decided that the "game was not worth the powder." He took the first opportunity of disposing of his business, secured a good position with a manufacturing house, and the first Saturday afternoon, after entering this new field, as he sat in his room quietly smoking his pipe and fully realized that long tiresome hours and Sunday work were over; that a weekly trip into the country was now possible; he sighed such a great sigh of intense comfort that—he awoke.

The first grey streaks of dawn were creeping through the window, the air was chill, and the reporter's muscles and bones stiff and sore from sitting so long in his cramped position. It took him some minutes to realize that he had only been dreaming, and when it did fully dawn upon him he thanked heaven that he was not a retail pharmacist. This reminded him of the many sheets of manuscript that he had penned against this class but a few hours before, and struck with the superficiality of his investigations and the unjustness of his criticisms, he decided that they should not appear in print, that he would rather remain poor and obscure all his life than make himself famous through misrepresentation. Full of such noble resolutions he reached for the papers. They were gone. He rushed frantically down the stairs, to the composing room only to find that the foreman had run short of copy, and finding his article lying there apparently finished, had taken it. It was now not only in print, but being sent all over the country as his—the reporter's—truthful statements about the general cussedness of retail druggists.

There was nothing further to do but accept the inevitable and form a set of resolutions that should govern his future reportorial investigations. He gave the printer's devil half-a-dollar to go out in the alley and kick him for ten minutes with only two rests, and then wrote up a couple of obituary notices to help ease his mind.

PENANCE.

Readers of the BULLETIN may take the foregoing as the real facts in the case of the recent article in the New York *World* regarding druggist's profits. A recent discovery of one of the BULLETIN's co-laborators enables us to control certain psychic influences or currents and thus get at the root of many things which would otherwise remain wraped in mystery. By the same ingenious contrivance we can state authoritatively that the most penitent man in New York City to-day is, the reporter who called on those thirty-six druggists and "wrote them up."

A. Hother

FOR MEDICINE ONLY.—

In my little snug back shop,
My customers often take a drop;
Whisky with, or gin without,
Bass' ale or "old brown stout,"
  For—medicinal purposes only.

My fountain has a special draught,
That to wink of eye is never daft.
"Oh, I don't care," or "the same's before,"
Brings the real stuff, you may be sure,
  For—medicinal purposes only.

A mortar hangs above my door,
But my graduate pays a great deal more.
To pharmacy ethics I bid adieu,
I'm here only for revenue;
  For—a man can't live on medicines only.

Drugs and patents I sell at cost,
But on such sales there's little lost,
The profits on these are very small,
As we do business scarce none at all;
  For—they're medicines only.

True pharmacy may be all right;
On it I'm often called a blight.
A genuine pharmacist I own I'm not;
Education and science I call but rot,
  For—they mean medicine only.

May success attend such work as mine,
Dispenser of gin and "Medford wine."
And when at last with life I'm through
The devil will doubtless get his due;
  Where—sulphur's a medicine only.

—Quien Sabe, in the *New Eng. Druggist*, June, 1890.

"SUGGESTION."—A man visited a well-known Parisian physician's office, and the following dialogue occurred:

Patient—"I am suffering greatly doctor."

Physician—"What appears to disturb you?"

Patient—"I have such susceptible bowels, that yesterday, seeing *a man eating a melon*, I was immediately attacked by colic."—*Cincinnati Lancet and Clinic.*

LOVE'S MALADY.—Eugenie D., the actress, had been sick with vaginitis for ten days, and bore her malady with true amiability. Dr. Rivarol remarked to her: "Your health proves you are very amiable, and your disease, that you are very much loved."

Abstracts and Translations.

Podophyllin Emodi.

In the *Pharm. Journal and Transactions*, Jan. 26th, 1889, page 585, Messrs. Dymock and Hooper state "that the genus Podophyllum contains only two species, one Himalayan and the other American.* The former, *P. Emodi*, Wallich, inhabits shady valleys on the inner range of the Himalayas, and is very abundant in Kunawur and Cashmere. The root agrees in most particulars with that of *P. peltatum*, but differs in the intervals of the knots whence aërial stems are given off, the knots being more frequent in this species. They state that the sample examined by them yielded 12 per cent. of amorphous resin of a pale orange-brown, soluble in alcohol, ether, chloroform and almost entirely so in ammonia, and upon ignition left no residue; and that when given in doses of ½ grain it produced a slight griping sensation, not uncommon to podophyllin when administered by itself."

From the large yield of resin, similar to podophyllin in physiological action, this drug seems worthy of further investigation, and thus I am prompted to make known my limited experience with the resin made from P. Emodi.

A sample was placed in my hands with the request to compare it with podophyllin as to amount of active principle, podophyllotoxin, it contained. My sample was small, weighing less than three grammes, and a portion of a small lot made in Bombay from a few of the roots, which yielded in this case 9 per cent. resin. Upon incineration it left no ash and dried at 100° C. till constant weight, lost 4.2 per cent. moisture.

Two grammes treated with benzin extacted 0.080 cm. of oily and waxy matter. The drugs were exhausted with chloroform, the chloroform percolate evaporated on a steam bath to a small volume, and then gradually poured into 39 cc. of ether. The etherial fluid was decanted from the agglutinated precipitate, which was washed with several portions of ether, and the total etherial solutions evaporated, and the residue, amounting to 0.261 gramme, weighed as *podophyllotoxic acid*. The precipitate of *podophyllotoxin*, was dried on a steam bath to a constant weight of 1.131 grammes.

RECAPITULATION OF ANALYSIS.

Ash	none.
Moisture	4.2
Oily and waxy matter, soluble in benzin	4.0
Podophyllotoxic acid	13.1
Podophyllotoxin, active principle	56 55
Inert matter, insol. in chloroform and sol. in alcohol	22.15
	100.00

The percentage of active principle, podophyllotoxin, in this sample is full 25 per cent. higher than the average amount found in resin of podophyllum, which varies from 40 to 45 per cent. American podophyllum yields on a large manufacturing scale, 5 per cent. of podophyllin, and accepting .10 per cent. as a practical average from the Indian, we would have a drug worth 2½ times in value.

The literature regarding P. Emodi is limited, and therefore it is impossible to state whether this drug is sufficiently abundant to gather, even at a much higher value than mandrake root; but it is hoped that we may have more than one source of this resin.—F. A. THOMPSON, PH. G. in *Am. Jour. Pharm.*, May, 1890.

Clove Culture in Zanzibar.*

Zanzibar is noted for being the principal source of the world's supply of cloves, and a report on the cultivation of this article of domestic economy may prove of interest.

When speaking of Zanzibar we include the islands of Zanzibar and Pemba, three-fourths of the entire crop of cloves being produced in Pemba. Those grown on the island of Zanzibar are reckoned of superior quality and command the better price, but this is probably due to the fact that the owners reside here, and can thus give their affairs the benefit of direct supervision.

Certainly the conditions of their successful cultivation are most favorable at Pemba, where the rainfall exceeds that of Zanzibar, but the management being left to careless overseers, the result is the cloves are imperfectly cured and (but little care being observed in handling) are frequently marketed in an inferior condition.

The clove tree was first introduced into this country by the then Sultan, Seyed Said, about the year 1830, since which time its cultivation has gradually extended, until it is now the chief industry of the islands.

The industry received a check in 1872, the date of the great hurricane. At least nine-tenths of the trees were destroyed at that time, so the larger part of those now standing are of new growth.

A peculiarity of the clove tree is, that every part is aromatic; but the greatest strength is found in the bud, which is the "clove" of commerce. The finest quality of cloves are dark-brown in color, with full, perfect heads, free from moisture.

In the cultivation of the clove, the first thing to be done is the starting of the shoot. The seeds are planted in long trenches and are kept well watered until after sprouting. In the course of forty days the shoots appear above ground. They are carefully watered and looked after for the space of two years, when they should be about 3 feet in height. They are then transplanted, being set about 30 feet apart, and kept watered till they become well rooted. From this time on the young trees require only ordinary care, though the best results are obtained when the ground about the trees is well worked over and kept free from weeds.

The growth of the tree is very slow, and five or six years are required for it to come into bearing, at which time it is about the size of an ordinary pear tree and usually very shapely. It is a pretty sight to see a young plantation just coming into bearing. The leaves, of

---

*According to the same authors, in Pharmacographia Indica, I, p. 69, two additional species of Podophyllum are found in China.—Editor *Am. Jour. Phar.*

* Report of Consul Pratt, from the *Oil, Paint and Drug Reporter*, May.

various shades of green tinged with red, serve to set off the clusters of dull-red clove buds.

As soon as the buds are fully formed and assume this reddish color, the harvesting commences, and is prosecuted for fully six months, at intervals, since the buds do not form simultaneously, but at odd times throughout the whole period. The limbs of the tree being very brittle, a peculiar four-sided ladder is brought into requisition, and the harvesting proceeds apace.

As fast as collected, the buds are spread out in the sun until they assume a brownish color, when they are put in the storehouse and are ready for market.

A ten-year-old plantation should produce an average of 20 pounds of cloves to a tree. Trees of twenty years frequently produce upwards of 100 pounds each.

The present season, commencing with July, 1889, is very favorable, and the crop will exceed that of any previous season. It will, in all probability amount to 13,000,000 pounds, averaging a local value of 10 cents per pound.

The Sultan derives no inconsiderable portion of his revenue from this source, since the duty is levied at 30 per cent. *ad valorem*, thus placing to the Sultan's credit for the present year nearly, if not quite, $400,000.

Besides the clove buds, the stems are also gathered, and form an article of commerce, commanding about one-fifth of the price of cloves and having about the same percentage of strength. To this circumstance is due the fact that ground cloves can frequently be purchased in the market at a lower price than whole cloves.

For the past fifteen years the cultivation of cloves has been the chief occupation of the Arab planters, and has always netted good returns. It seems probable that it will continue to be a profitable crop, since the consumption of the article appears to keep pace with the inevitable increase of production.

Up to the present time the plantations have been worked with slave labor at comparatively small expense; but with the stoppage of slave supplies from the mainland, great difficulty will be experienced by the planters during harvest time. One result will be an increase in expenses; but what the planters have most to fear is that the curtailment of the labor supply will entail a direct loss by rendering it impossible to harvest the crop until after it has blossomed, when it would be unfit for the uses of commerce.

The Use of the Simple Microscope in Pharmacy.

H. M. Whelpley, M. D., in the *Druggists' Circular* for July, emphasizes the importance of the use of the microscope by pharmacists, and promises a further paper on this subject in future.

In the course of his article he commends the simple microscope in the following words:

Fortunately for the pharmacist, the simple microscope is of great service in his business, although I regret to state it is not employed to the extent it should be. There are several forms of the simple microscope on the market. Among the most serviceable are what an Englishman has termed the platyscopic lenses. They come with three separate lenses which magnify 15, 20 and 30 diameters respectively. Similar-looking microscopes are made in this country but do not magnify as much as these do. These English microscopes are what are known as achromatic triplets. If these cannot be procured, then purchase one of the cheaper simple microscopes set in rubber or tortoise shell, (the rubber frame is the more serviceable,) and make use of them. They are generally known as pocket magnifiers and the lens closes into a frame like a knife blade into the handle. If single ones are procured, get at least two, one with a power of fifteen diameters and the other twenty or twenty-five diameters. I find a triplet which has three lenses in one case to be very convenient.

It is by no means difficult to determine, at least approximately, the magnifying power of a simple microscope. It is found in the case of one lens by measuring the focal distance and dividing it by ten. The focal distance is the distance of the lens from an object which is in focus so that it is readily seen. Thus if the focal distance is one inch we divide ten by one and get ten as the number of diameters the lens magnifies. If the distance is but one-half inch then ten divided into one-half gives twenty as the magnifying power expressed in diameters. Another method which is based on the same principle is to focus some infinitely distant object, as the sun, and then measure the distance of the lens from the surface on which the sun is focused and divided it into ten as in the former case. When more than one lens is used, their combined power is equal to the sum of their individual powers. Thus a set of three lenses with powers of ten, fifteen and twenty diameters respectively, will, when combined, equal forty-five diameters and magnify the same as a single lens of that power. In this connection it may be well to state that whenever two or more lenses are used as a simple microscope, the highest power or strongest lens should always be turned towards the object.

The Standardization of Galenical Preparations.[1] [2]

The question of the uniformity and reliability of the medicinal preparations employed in the treatment of disease, is one of considerable importance to physicians and their patients. So far as it is practicable, it is certainly desirable that tinctures, fluid extracts, and the like, should represent a definite strength, not merely of the crude drug, but of those constituents of the drug upon which its therapeutic and toxic activities depend. We have all experienced the embarrassment which attends the use of a preparation of unknown power, for, on the one hand, our dose may be too small to accomplish the desired result, and, on the other hand, it may be so large as to be dangerous. So long as the Pharmacopœia of the United States fails to prescribe a uniform and exact standard for such drugs as opium, belladonna, aconite, nux vomica, conium, and others which might be mentioned, this danger and uncertainty must remain. In the case of a drug like opium, in which the pharmacist is allowed to use his discretion as to whether it shall represent twelve per cent., or anything between that and sixteen per cent. of its most powerful alkaloid—a range of variation of twenty-five per cent., if we take the highest figure, and of thirty-three per cent. if we take the lowest figure—it is obvious that the physician is unable to prescribe an accurate dose, and must perform a series of tentative experiments with each new preparation that is ordered. Not only will there be a different therapeutic and toxic value to the preparations obtained from different druggists, but unless each druggist adopts for himslf a definite standard, be that the highest or the lowest required by the Pharmacopœia, preparations obtained from the same druggist at different times will likewise vary.

---

[1] We greatly regret that our engagements prevented the publication of this article before the time of meeting of the Pharmacopœial Convention. Doubtless, however, the Committee of Revision may yet be able to give due consideration to its arguments, and certainly the medical profession must feel interested in them at all times.—Editor *N. Y. Med. Jour.*

[2] By Solomon Solis-Cohen, M. D., Professor of Clinical Medicine and Applied Therapeutics, Philadelphia Polyclinic.

It would seem, then, that the obvious duty of the Pharmacopœial Convention to adopt one definite morphine strength for opium preparations, and for physicians to demand of druggists absolute conformity with the Pharmacopœial requirements. But as regards opium we are much more fortunate than with other drugs possessing equally dangerous properties, if given in excessive doses. With opium, at least, we can guess within thirty-three per cent. of its strength, but with belladonna, to take but one example out of many, we can not guess even that.

In a paper recently read before the Philadelphia County Medical Society, Dr. H. H. Rusby states that the percentage of total alkaloids in belladonna leaves may vary as much as two hundred and fifty per cent., and that the physical properties of the drug give no indication of its alkaloidal value, some of the worst-appearing leaves giving the best assay.

Now it is true that the physician who desires to produce an atropine effect can attain his object most readily and satisfactorily by administering a salt of the alkaloid; but atropine does not represent belladonna. There are cases of daily occurence in which we desire to administer the Galenical preparation and not the alkaloid. It is in these cases that the constant uncertainty concerning the activity of the preparation employed leads to the double danger of failing to secure the effect desired if we use a small dose, and of poisoning our patient if we use a large one with the preparation unexpectedly more active. It is reasonable to suppose that whatever constituents of the drug give it its therapeutic powers will be found associated in about the same proportion, and that the total alkaloidal strength will represent the total therapeutic value. It certainly will represent the total toxic activity. It is further evident that what the physician is concerned with is, not the quantity of crude drug to be used by the pharmacist, but the strength of the finished product which he prescribes. That, with one lot of leaves, one fourth of the quantity of crude drug prescribed by the Pharmacopœia will produce a fluid extract or tincture of sufficient therapeutic activity, or that, in another case, four times the Pharmacopœial quantity will be required, is a matter of absolutely no consequence to physicians. What they have a right to demand of the Pharmacopœial Convention, and of the intelligent pharmacists who will assist in its deliberations, is to lay down a broad principle that in every possible case the preparations to be prescribed by physicians and taken by patients shall have a uniform and definite strength; and it will then become the duty of the Commitiee on Revision, with the aid of its experts, to ascertain the best method of putting this principle into practical application. But it must be distinctly understood that the standard applies to the finished official preparation; for this is what the physician prescribes. Of what advantage is it to know that tincture of nux vomica represents so many parts in a hundred of a drug whose alkaloidal strength has a range of variation of fifty per cent.? And as this variation is incurable, it is obvious that the parts in a hundred must be varied in an inverse ratio to produce a preparation of standard strength. The fact that a certain firm of manufacturing chemists—it may be with far-sighted business instinct, it may be with a professional pride and honor which should not be unexpected from those having such intimate relations with the medical profession—has, without waiting for the Pharmacopœial Convention, instituted for itself a series of elaborate and expensive experiments, and put upon the market preparations of guaranteed strength, such as the Pharmacopœia should require from all manufacturing houses and from all retail pharmacists; this fact—humiliating as it is to scientific men, who should not have allowed manufacturers to take the lead in so important a reform—should certainly not act prejudicially to the adoption of the principle contended for. On the contrary, the writer, who has a very wholesome aversion to indorsement of any kind of patented or trademarked preparations or appliances, would feel that he was doing an injustice to the enterprise and scientific spirit of Messrs. Parke, Davis & Company if he did not mention that house with due credit and praise, and express the satisfaction which he has derived from the use of their standard preparations in contradistinction to the disappointment which has often attended the use of the uncertain preparations of the Pharmacopœia. As a matter of course, since the point has been raised, the name which this house has applied to its line of assayed preparations should not be admitted into the Pharmacopœia any more than such names as "antipyrin," "antifebrin," "salol," and the like; though there is this difference to be observed to the credit of our American manufacturers: That their names are not trademarked, while those of the German houses, whose preparations are so extensively sold in this country, are, under the laws of the United States, which afford permanent protection to trademarks, equivalent to a perpetual patent right.

The principle advocated by those who desire to have uniform standards of strength of Pharmacopœial preparations, is so obviously correct that it is hard to avoid repetition and superfluous iteration in its presentation; the mere statement of it should suffice, without argument.

It is the duty of physicians and pharmacists to consider the subject very carefully, and to express their views publicly, in order that a due weight of professional opinion may be brought to bear upon the deliberations of the Convention; to secure the removal of the conditions of uncertainty which are not only a discredit to the two learned professions of medicine and pharmacy, but, in addition, always a disadvantage and sometimes a danger to the community at large.—*N. Y. Med. Jour.*, July 5th.

Pharmaceutical Progress.

Camphor a Solvent of Iodoform.—According to Herr Sarzeau, the addition of camphor to ether or alcohol increases the quantity of iodoform it is capable of dissolving (*Pharm. Cent.*, April 17th, p. 236). To this Herr Haffer adds that olive oil saturated with camphor will dissolve as much as 6 per cent. of iodoform.

Nitroglycerin in Asthma.—Subcutaneous injections of nitroglycerin, in doses of 0.0005 to 0.001 gramme, are recommended by Herr Hoffmann in angina pectoris and severe asthma (*Apot.-Zeit.*, *Rep.*, May 28th, p. 156). The effect of the injection is said to be remarkable, and no objectionable by-effects have yet been observed.

Dangers of Carbolic Acid.—Dr. T. Billroth, of Vienna, states that insignificant injuries are frequently made serious by the uncalled-for application of carbolic acid, which skillful surgeons are using much less than formerly. It may cause not only inflammation, but even fatal blood-poisoning. This, therefore, should be remembered. Salicylate of soda, in a moderately weak solution, is infinitely better than carbolic acid for every purpose to which the latter is applied in medical or surgical practice.—*New England Druggist.*

A Paste which will Stick.—A paste which will stick anything is said by Professor Winchell to be made as follows: Take two ounces of clear gum Arabic, one and a half ounces of fine starch, and half an ounce of white sugar. Dissolve the gum Arabic in as much water as the laundress would use for the quantity of starch indicated. Mix the starch and sugar with the mucilage; then cook the mixture in a vessel suspended in boiling water, until the starch becomes clear. The cement should be as thick as tar, and kept so. It can be kept from spoiling by the addition of camphor or a little oil of cloves.

Protective Gauze Tissue.—In the *British Medical Journal* (June 14th, p. 1367), Dr. Renton, of Edinburgh, describes a new form of gauze protective tissue, contrived with a view to "insure the gauze or other dressings not sticking to the wound and still allow any discharge to be absorbed through it." It is made by stretching "coarse pale book muslin" on frames, and soaking with a mixture of isinglass, glycerin, water, anilin solution, bichloride of mercury solution (1 in 4000), and chloride of ammonium. When dry it is permanent and antiseptic. In using it, a strip the length of the wound and an inch in width is cut and dipped into a tepid solution of bichloride of mercury (1 in 2000) and then applied over the wound, with the ordinary dressings above. Complete absorption of any discharge is said to be allowed, whilst sufficient dissolved isinglass remains as a coating over the wound to secure non-adherence of the tissue and thus enable the surgeon to remove the dressings without causing pain.

Camphoric Acid in Night Sweats.—Camphoric acid, prepared through the oxydation of camphor with nitric acid, has been used experimentally by Herr Len, in the treatment of the night sweats accompanying phthisis (*Apot.-Zeit.*, *Rep.*, May 28th. p. 156). The average dose given was two grammes, which was sometimes increased to three grammes; the largest daily dose given was five grammes—two grammes at noon and three grammes in the evening. A full result, the production of a perfectly dry skin, was obtained in about 60 per cent. of the cases; a partial result in 22 per cent.; and scarcely any result in 18 per cent. The acid, which is only slightly soluble in water, though more soluble in alcohol, is best given inclosed in wafers. It was observed that the action of the camphoric acid was sometimes not manifested in the night following immediately after its administration, but became first apparent in the next night, and that its influence continued during several nights.

Asbestos in the Laboratory.—Asbestos in its various forms is a very useful substance, and can be employed very handily in many ways at the lecture-table and in the laboratory, says Professor Markoe. Shredded or carded asbestos will serve as an excellent filtering material, used just the same as paper pulp. Asbestos twine is used for binding together parts of apparatus exposed to fire or strong acids. The writer often prevented a crack in the neck of a retort or flask from spreading by binding it with asbestos yarn or twine soaked in solution of sodium silicate, and then treated with a solution of calcium chloride, a perfectly insoluble cement being thus formed. Asbestos wool mixed with solution of silicate of sodium makes a fire-proof cement of great strength, also serves to mend cracks in stoneware; can be made insoluble by subsequent treatment with calcium chloride, silicate of calcium being formed. Asbestos paper and card can be obtained of all degrees of thickness, and can be well employed as substitutes for wire gauze and the sand-bath in small operations involving the heating of glass vessels. Asbestos paper and silicate of sodium is very useful for mending cracks in glass apparatus.—*Chem. and Drug.*

Powdered Meat.—As long ago as 1871, Dannecy, chief pharmacist of the hospitals of Bordeaux, prepared an excellent article of food for invalids by making a powder of meat. He took meat, chopped it very fine, and spread it upon muslin, drying by means of a current or air. In this way he obtained a friable mass, which was easily powdered. It was administered by adding to beef tea or spreading upon bread. It could also be mixed with the ingredients used for making biscuits, and this combination was found to be especially suitable for administration to children.

In the same year Yvon suggested the following method of preparing a palatable meat food: Take of raw meat (filet of beef), 250 parts; of charred sweet almonds, 75 parts; of bitter almonds, 50 parts; of white sugar, 80 parts. Rub slowly in a mortar until a homogeneous paste is obtained, adding from time to time a sufficient quantity of water to give a proper consistency for a semi-solid or a liquid mixture. In the liquid preparation the meat will settle after a while, but may be dispersed through it by shaking. The preparation may be preserved for a long time if bottled and kept in a cool place, and its nutritious character may be enhanced by adding to it the yelks of one or more eggs.—*Pharm. Record*, July 7th.

FORMULA FOR THREE AMERICAN SPECIALTIES.—A. Tscheppe has investigated the composition of these specialties or rather secret remedies.

Kennedy's Pinus Canadensis contains in aqueous solution aromatized with *oleum pini sylv.*:

10 per cent. sulphate of zinc, and
20 per cent. starch syrup.

Listerine (Compare Ph. C. 29, 110) is a solution containing:

1 part oil of eucalyptus,
1 part oil of gaultheria,
1 part menthol,
1 part thymol, and
16 parts of boric acid in
220 parts of spirits and
500 parts of distilled water.

Platt's Chlorides, a much-employed disinfectant, contains in 1000 parts of aqueous solution about:

170 parts of aluminium sulphate,
40 parts zinc chloride,
55 parts sodium chloride, and
85 parts calcium chloride.

—*New York Pharm. Rundschau.*—*Pharm. Centralhalle.*

SODA WATER MADE WITH COMPRESSED GAS.—This paper deals with the economy and convenience of this newer method as compared with that of purchasing water already charged, or the labor and expense of preparing it by the methods usually in vogue, that of charging the fountains by means of the generators usually purchased by druggists. The figures given include the purchase of one steel cylinder in which the compressed gas is shipped, two 10-gallon fountains, one gas regulating valve, a fountain agitator (to facilitate the absorption of gas), say, $100. The cost of the gas in one of the steel cylinders is $3, the expense of freight and delivery (New York to Buffalo and return for recharging) is additional, averaging about $1 to $1.50, and the contents of one cylinder will charge from 10 to 12 fountains.

In Buffalo, where charged fountains are delivered to druggists, the price is 20 cents per gallon, while it is estimated that the expense when charged by the compressed gas does not exceed 5 cents per gallon. Respecting convenience, the writer states that the economy of labor and time is very great by this method, as a fountain can be detached, filled and, charged satisfactorily in ten minutes. It is economical of space, as the whole apparatus occupies so little room that it might be set behind a counter or within a space scarce more than 18 x 54 inches and operated satisfactorily.

The risk in using compressed carbonic acid gas, as thus supplied in cylinders, is not nearly as great as that of generators as usually supplied by manufacturers, and so for economy of expense, convenience in use, and less exposure to risk or accident, the writer gives his preference, based on experience, to the newer method of compressed carbonic acid gas. — Willis G. Gregory, Ph. G., in *Pharm. Record.*

Notes and News.

THE PREPARATION OF POTABLE WATER from such as is not originally suitable for consumption, is the subject of a recent patent. In the specifications the process is described as consisting in the admixture of sugar or oxalic acid and distillation.

A NEW STERILIZER.—*The Pharmaceutical Record* informs us that a new sterilizer for preparing sterilized milk is offered by Messrs. Whitehall, Tatruce & Co., and sold at $2.00 retail. If efficient, this should prove saleable. Sterilization is now the order of the day in the dietetics of infants.

BUFFALO COLLEGE OF PHARMACY.—At the annual meeting of the Faculty of this Institution held recently, the business of the session for 1889–90 was concluded, and active measures taken in preparation for 1890–91.

An election of officers resulted as follows: Dean, Prof. Willis G. Gregory; Registrar, Prof. Eli H. Long; Secretary, Prof. John R. Gray.

DRUGS OF UNCERTAIN STRENGTH.—Dr. Willis G. Tucker, Analyst of the State Board of Health of New York, has examined sixty-eight samples of drugs collected last May, in Poughkeepsie, Newburg, Rhinebeck, Mattewan, and Fishkill-on-the-Hudson, and of this number thirty-three were deficient in quality, being either of inferior, of excessive strength, or articles wrongly sold.

STERILIZED MILK, produced on a large scale, will soon be everywhere procurable in Great Britain. It is intended that the apparatus for effecting sterilization shall be let out to dairy farmers at a fixed rate. For a plant with a capacity of 350 litres (a little over 76 gallons) the charge will be 2*s*., and for one of 700 litres 3*s*., per day. With sterilized milk at the breakfast tables the "antiseptic period" of the world's history may be said to be established.

A COMPLIMENT TO THE DUTCH PHARMACOPŒIA.—The *Répertoire de Pharmacie*, June, 1890, contains from the pen of Prof. Boymond an elaborate review of the new Dutch Pharmacopœia, the revised edition of which work takes effect as the official guide July, 1890. The professor closes his remarks with a very complimentary expression of opinion "that the accuracy and the simplicity of its modes of assay make it a model work of its kind. Perhaps this may afford the Committee of Revision of the U. S. P. some good suggestions.

FLUID EXTRACT SENNA PODS.—The results of some European clinical tests with preparations made from the pods instead of the leaves have proved that the former are superior. The pods are said to contain 25 per cent. more cathartin than the leaves, and to possess little or none of the constituent to which the nauseous taste and griping action are ascribed. A fluid extract of senna pods has been placed upon the market by several manufacturing concerns, and physicians are beginning to appreciate the merits of this form of exhibiting this familiar laxative.

THE PHARMACEUTICAL PRESS ABROAD.—Pharmacy in foreign parts has been enriched by the establishment in Spanish America of two journals devoted to the craft —viz., *La Farmacia* (Mexico) and *El Progreso Medico-Farmaceutico* (Buenos-Ayres). As a set-off against this advance in the west, we have to record the sad fact that the only chemical journal published in the Hungarian language has bled to death for the want of support. It was published at Klausenbury, under the title of *Vegytani Lapo*k (leaves of chemistry). These particular leaves could never strike root, though they vegetated for a long time.

Pierre Lure & Co.'s La France Cream and Complexion Powder are not sold to dry goods houses, but exclusively to druggists, thus giving the trade protection, and they are able to obtain full prices and make about 100 per cent. on the goods.

They send a liberal quantity of samples and advertising matter with each order. To houses not familiar with the goods, they will send a full-sized box of La France Powder on receipt of 15 cents, or a jar of Cream on receipt of 45 cents. They refer to the merit possessed by the goods, and the fact that they are attractively put up, making them especially good sellers.

BISMARCK'S BEVERAGES.—The idea of Prince Bismarck having impaired his faculties by morphia-drinking is really too extravagantly preposterous a fiction for even lunatics to credit; and the even more offensive allegation of "alcoholism" is not less nonsensical. Prince Bismarck formerly took his fair share of wine or beer, but he is a man of iron head, and certainly never was affected in any way by his potations, The days, however, when he drank champagne, beer, and Rhine wines, have passed away. A few years ago Prince Bismarck found his neuralgia benefitted by a daily bottle of strong dry port, the wine being of a special quality which he obtained direct from Oporto; but this was also discontinued when he consulted Dr. Schweninger; and for a long time past his beverage has been weak whisky and Apollinaris, and even of this only a comparatively small quantity has been allowed.—*Truth.*

IMPORTANT TRADE-MARK DECISION.—A judgment has just been given in the French law courts which is of considerable importance as affecting the marking of goods with a false place of origin. The town of Bar-le-Duc has long been famous for its confections, and the trade in these goods, which is of considerable value, is mainly in the hands of six old-established firms of "confiteurs." The fame of "confitures de Bar" excited the jealousy of two firms of confectioners in Ligny, who proceeded to place their goods on the market, labelled as "*Confitures de Bar.*" For doing so they have been prosecuted by the six genuine Bar confectioners jointly. The judgment of the lower court went against the Ligny people and this has been confirmed on appeal, a permanent injunction having been granted which will prevent any firms not actually located in Bar-le-Duc from exploiting the reputation of that ancient fortress by using its name on their goods.

LACTUCARIUM AND WILD LETTUCE.—There appears to be some misapprehension with regard to the botanical nomenclature of the sources of these two articles. Lactucarium is Lettuce Opium, and is preferred by many to the opium of the poppy as an anodyne and hypnotic for administration to infants and susceptible patients, on account of its mildness and more easily regulated dosage. It is derived from the European plant *Lactuca virosa*, Lin. Wild lettuce, however, as commonly used in this country is the indigenous plant, *Lactuca Canadensis*, Lin., although we are led to understand that upon its first introduction to the Materia Medica of this country the botanical name of the European plant (*L. virosa*) was erroneously attached to it. Were we called upon to supply fluid extract Lactuca virosa, we should not hesitate to furnish fluid extract Wild Lettuce (*L. Canadensis*). The history of the use of the drug would not warrant one in dispensing fluid extract Lactucarium.

If this distinction were recognized by druggists in ordering, it would prevent the dissatisfaction now arising from ordering the European *Lactuca virosa*, which sells at $15 a pound, when they desired *Lactuca Canadensis*, Lin., a much less expensive product grown on American soil.

THE DRUGGIST'S NIGHT-BELL.—Druggists, do you refuse night calls? If you do, hearken to the advice of a writer in the *Pharmaceutical Record*, who says:

The druggist must answer the night-bell promptly, and in this connection there is nothing so valuable as a speaking tube. With it he can inquire who rings the bell, and what is wanted. He can recognize the voice of his customer, and besides ascertain if the call is urgent, without leaving his bedroom or exposing himself to cold by hoisting the window and looking out. By the speaking tube he can avoid the everlasting ting-a-ling by the impatient customer till he reaches the store door. Some druggists get up for prescriptions only; others for these and important medicines, such as laudanum, paregoric, morphine, etc.; but I think the matter best decided on its merits for each individual case. I once accomodated a man in the middle of the night with a gallon of coal oil, which was a very great necessity, his wife having been taken suddenly sick, and there was not enough oil in the house to burn till morning. This man, a stranger in the neighborhood, afterwards became a very good customer. While it hardly pays to lose one's rest for the paltry sum of 35 or 40 cents, yet the prescription filled in the night may require to be refilled many times. I call to mind one that has been refilled at intervals for the past seven years, and has proven to be the most profitable one on the books. A man can never know what he loses by not attending to the night bell.

DRUGGISTS' BULLETIN

A MONTHLY EXPONENT OF

PHARMACEUTICAL PROGRESS AND NEWS.

VOL. IV., No. 8. DETROIT, MICH., AUGUST, 1890. $1.00 a year. Single copies, 10 cents.

THE DRUGGISTS' BULLETIN.
ISSUED MONTHLY.

EDITOR:
B. W. PALMER, A. M., M. D.

COLLABORATORS:
PRACTICAL PHARMACY.
J. LE ROY WEBBER, PH. G., LEON C. FINK.

CHEMISTRY.
F. A. THOMPSON, PH. C., J. B. NAGELVOORT, PH. G.

BOTANY AND MATERIA MEDICA.
H. H. RUSBY, M. D., G. SUTTIE.

PHARMACEUTICAL APPARATUS AND INVENTIONS.
J. B. RUSSELL, PH. G.

GEO. S. DAVIS, Publisher,
P. O. Box 470, DETROIT, MICH.

Articles designed for insertion in THE BULLETIN, subscriptions, advertisements, and all communications should be addressed to the publisher.

Editorial.

DRUGGISTS VS. GROCERS AS DISPENSERS OF HOUSEHOLD REMEDIES.

The report of Dr. Willis G. Tucker, Analyst of the New York State Board of Health, for the year 1889, is deserving of more than a passing notice at the hands of pharmacists, as lessons of much practical importance can be drawn from it. As a rule, druggists may fairly be supposed to be freer than any other class of tradesmen from the tendency to supply unreliable articles to their customers.—Indeed, the report of Dr. Tucker bears direct evidence to this effect. It is only because the importance of care in the case of the druggists' wares is so much greater than elsewhere, that they are properly held to a much stricter account, and that a smaller degree of delinquency calls for more severe denunciation. The profession should therefore be especially thankful for all contributions calculated to put them on their guard in particulars where they are specially liable to deception and to consequent responsibility for violation of duty. Such special dangers are plainly pointed out in the report before us.

Of 532 samples of cream of tartar examined during the year, 417 were purchased from druggists, and 115 from retail grocers. All the details of the transactions and investigations are presented, and ample measures taken for sustaining the report as given. By "good quality," Dr. Tucker explains, is meant a fulfillment of the requirements of the United States Pharmacopœia, or only a trifling and unimportant variation therefrom. By "fair quality" he means something that is not up to the standard, but evidently not very far below it, nor intentionally adulterated; and he employs the word "inferior" when the drug is clearly adulterated, falsified, or otherwise seriously unfit for the use designed. Of the entire number of samples examined, the following is the result by percentages: Of good quality, 233, or 43.8 per cent.; of fair quality, 54, or 10.2 per cent.; thus leaving 46 per cent. of articles wholly improper to be sold. But this showing is by no means so bad as would appear, for of this 46 per cent. of worthless products, nearly 16 per cent. occurred in the 115 samples purchased from grocers. While this is 16 per cent. of the total number of articles examined, it is to be borne in mind that it represents more than 75 per cent., or 85 samples, of the 115.

It is in this portion of the report that druggists are to find one of their most valuable hints. Dr. Tucker finds the state of affairs here presented with regard to cream of tartar as merely corroborative of similar results reached in the investigation of various other articles, such as sulphur, salts, and other common household remedies. Inasmuch as the same state of affairs was found to exist in the case of the highest-priced goods as in those sold at the second-rate stores, the inference is clear that grocers are wholly unreliable as dispensers of even the simplest remedies of this class. A grocer recently said to the writer: "I do not pretend to keep important remedies, but such simple things as sulphur, salts, and so on, require no special attention, and I can sell them just as well as a druggist." But when he was confronted with figures showing the amount of irritating acid and other impurities found in the ordinary grades of grocer's sulphur, he found himself without anything to say in defense. Every druggist who reads this article, or who has access to Doctor Tucker's report, should make use of these figures as a strong weapon in preventing his neighboring grocers from taking away his legitimate trade in this class of articles.

Dr. Tucker expresses the opinion that this report gives no fair indication of the amount of adulteration in druggists' articles as compared with the number of reliable ones—for the reason that only such articles were selected as were specially subject to adulteration and therefore specially tested the honesty and ability of the dealer. He believes that had the articles been taken at random, without such selection, the percentage of good articles would have been much higher. While this is undoubtedly true to a certain extent, yet it is to be borne in mind that if tinctures, fluid extracts, and similar preparations of vegetable drugs, had been taken into the account, it is doubtful if the reporter's opinion would have been confirmed, because this class of preparations are known to vary quite as much as many of the articles selected by Dr. Tucker for his examination.

He finds the greatest amount of difficulty in:—Diluted acetic acid, only 15 out of 40 samples being good or fair; compound spirit of ether, of which only 8 out of 49 samples could be passed; stronger ether, of which 24 out of 68 were condemned; saffron, of which only 2 out of 21 were good, and; precipitated sulphur, showing only 8 samples out of 31 could be approved. While all of these articles present more or less difficulty to the druggist who would judge of their quality by an examination, yet in none of them is it so great that it cannot be readily overcome by the average pharmacist who exercises even moderate care. Now that he has been placed so strongly on his guard against these particular articles, he can very easily take the proper steps in the premises. Even a trifle of care in buying, will ordinarily enable him to get at the facts, for it is notorious—particularly in the case of the compound spirit of ether—that an inferior article is almost always offered at a price which should indicate that its quality cannot be up to the standard.

These reports would seem to be having the desired effect upon the pharmaceutical profession, for Dr. Tucker is able to report a marked improvement in druggists' stocks since the publication of his last report.

CARELESS LEGISLATION.

The readers of the BULLETIN will doubtless be pleased to learn that Bill No. 279, which as originally promulgated was so objectionable and offered such serious menace to the pharmaceutical interests of our country, has been withdrawn, and a measure far less arbitrary substituted. Nevertheless the latter exhibits one or two flagrant defects which are of sufficient importance to justify every pharmacist in approaching his Senator and Congressional Representative, asking that they exert their influence to secure further revision.

First, the title is extremely ambiguous and loose, for after stating its specific object, it terminates with the words "and for other purposes." "Other purposes" conveys a variety of meanings and it is easy to conceive of its being so interpreted as to occasion all who can possibly feel the evils of this legislation, endless trouble.

Second, in the definition of the term "adulterated" as it appears in the Bill, we find the following:

> "A drug shall be considered adulterated if when sold under or by a name recognized in the U. S. Pharmacopœia, it differs either in quality or strength from the standard laid down by this authority."

Could a stronger barrier to progress from decade to decade be established? The Pharmacopœia is revised but once in ten years, and within that period many improvements are inaugurated and worked out. In fact, as regards very many preparations, an issue of the Pharmacopœia becomes practically obsolete in the last year or two of its existence. What incentive will manufacturers have to improve the quality and strength of their products if a law which finds its source in the Farmer's Alliance, is going to prevent them from seeking a market? Farmer's Alliances are all right in their way, but let them confine their attention to pastoral pursuits and not undertake to meddle with exact sciences of which they know nothing, for the mere purpose of creating a Commission and increasing the patronage which is already extended by the Agricultural Department.

If the revised Bill as it now stands, becomes a law, it will be a source of continual annoyance to every progressive man within our ranks. Suppose, for instance, an enterprising manufacturer succeeds in elaborating a practical process for the manufacture of chemically pure Quinine. He would be prevented from marketing such product, since the Pharmacopœia distinctly admits the presence of a considerable percentage of foreign alkaloids in Quinine, and to issue a pure article would obviously expose him to the liability of arrest and position.

Pharmacists should insist that this measure be shorn of every possible objection before it passes the House. If the pharmaceutical interests of the country were not responsible for its birth, they can at least make their influence felt in its revision and modification. Do not wait, but at once address both your Senator and Representatives in Congress, asking that they do what they can to expunge the defects above described.

SHORTER HOURS FOR PHARMACISTS.

The question of the number of hours a drug clerk should be expected to work is agitating pharmaceutical journal circles just at present. It is a hackneyed one and has been much discussed without many practical suggestions as to the remedy for long hours.

There are some aspects of this question which those who aspire to shorter hours may profit by considering. Among these may be mentioned a point made by the editor of the *American Druggist* in a recent editorial resumé, which we think well taken, viz: The fact that the labor of professional men is not regulated by hours as in the case of artizans or trades people. It would be a strange thing indeed to find a lawyer, editor, clergyman, architect, or doctŏr, who worked only for a certain number of hours in each day; on the contrary, their work begins as early as possible and continues, oftentimes, well into the night. It is not a question of a limit for working time so much as a limit of working capacity. This must also be true of the dispensing pharmacist. While the wholesale druggist or manufucturer, who comes into business contact with the trade only, may open and close his place of business at such times as are customary with business houses, the *professional* pharmacist must conform, rather, to the customs of other professional men, or abandon the professional features of his business.

There can be no doubt that the public have become accustomed to finding drug stores open until long after all other places of business, excepting liquor stores, are closed. This has come about through the need for prescriptions written by doctors who have occasion to make late visits. But there is no good reason why the establishment should be kept open upon the same scale as during the early evening. The gas can be turned down and the place left in the care of the proprietor, or a prescription clerk and an errand boy, after eight or nine o'clock in most cases, and in this way the public may be led to appreciate that the store continues to be open as a matter of accommodation for those who may need medicines rather than for the sake of profit.

This view of the question may seem to the drug clerk a one-sided one, but our contemporary skilfully sugar coats the pill by portraying a mitigated method of relieving the clerk and educating the public up to calling for drugs at reasonable hours in the following politic words: "The proprietor is very short-sighted and penny-wise who requires too prolonged attendance by his clerks. If the circumstances of location and business require that the store should be open from early in the morning until late at night, every employee should be *required* to take some time during the day out of the shop, and have a change of occupation and some amusement. If only one person besides the proprietor is competent to prepare prescriptions, then they should co-operate to enable each to have a run outside on business or pleasure. The 'dull boy' who is the result of 'all work and no play' is the one who makes mistakes in prescription work, gets careless in regard to habits, and is easily disturbed by the unreasonable demands of customers. And it is more often the overworked assistant, with a hope of greater freedom, than a newcomer who opens the competing store on the next block."

NOVETLY IN MODERN PHARMACEUTICAL WRITINQ.

No general reader of pharmaceutical readers will dispute the variety of opinion and novelty of expression of the pharmaceutical journals of to-day.

It is evident that the practical trade aspects of pharmacy are yet recognized by the pharmaceutical press, and that there is no prospect of their giving place all at once to the purely ethical or scientific views of the pharmacist's vocation.

Among the hints given on this subject by some of our Western contemporaries, are the following:

⁂

"IS PHARMACY A PROFESSION OR A TRADE?"

"Gentle reader, come with me now and gaze into yonder modern pharmacy; behind its polished French plate glass window, before a tower of marble, with silver faucets, we behold a gentleman clad in white airy clothes, shaking his eggs, and phosphating milk, slashing around ice cream, and squeezing lemons so they will go through a straw. Is this a dream? Did not you and I see this man last year at this and that meeting, clad in broadcloth, adorned with a half-yard of crimson satin badge, delegate of such and such association? Did he not take the meeting by storm with his eloquent appeal for the highest possible scientific education? He insisted on three terms at college, made analytical chemistry mandatory, and counseled the compulsory study of microscopy, so that even the registered assistant could readily tell by his lens whether the specimen before him was a horizontal cut from the Canada snake root or the head of a family tape-worm. Aye, it is he—a genuine Ph. G. At the meeting, the scientific tribune; at the pharmacy, the temperance bar-keeper. Are you in a mood to answer the question, 'Is Pharmacy a Profession?' Who hallooed 'Rats' way up in the balcony.

⁂

"BE A HUSTLER."

"The druggist who sits 'round his store bemoaning the hard times and the fact that the dry goods stores are selling all the druggists' sundries, toilet soaps, perfumes, brushes, and the like, is not helping matters by his tale of woe. He should jump up, hustle 'round, get a move on himself, inject some life in his shop and business. Less time given to vain regrets, and more to 'hustling,' would bring a more desirable condition of things. You can't change matters by growling. Don't be a 'has been.' Jump in and meet the dry goods man's prices. You can buy as cheap as he can, and sell as cheap, too. The trade belongs to you; prices will bring it. Prices bring it to your competitor. Remember that low prices win. Sail in. You'd better sell at ten or fifteen per cent. profit than not sell at all. Get a move on you. Hustle! Let the people know that you are alive; that you are running a drug store; that you have goods to sell, and will make prices that will sell 'em."

BOIL IT DOWN.

Whatever you have to say, my friend,
Whether witty, or grave, or gay—
Condense it as much as ever you can,
And say in the readiest way.
And whether you write on rural affairs,
Or particular things in town,
Just a word of friendly advice—boil it down.

For if you go spluttering over a page,
When a couple of lines would do,
Your butter is spread so much, you see,
That the bread looks plainly through;
So when you have a story to tell,
And would like a little renown,
To make quite sure of your wish, my friend—boil it down.

When writing an article for the Press,
Whether prose or verse, just try
To utter your thoughts in the fewest of words,
And let it be crisp and dry;
And when it is finished, and you suppose
It is done exactly brown,
Just look it over again, and then—boil it down.

For editors do not like to print
An article lazily long,
And the general reader does not care
For a couple of yards of song;
So gather your wits in the smallest space,
If you'd win the author's crown;
And every time you write, my friend—boil it down.

THE PHARMACOLOGY OF THE CAMPHOR GROUP.

The experimental investigations of Huebner, Hoffman, and Wiedmann, have yielded a large number of facts as to the physiological action of chloroform. As a result of the studies of these different observers, it has been found that camphor produces at first generalized convulsions, which are, however, only observed in warm-blooded animals, and then paralysis of the terminal extremities or the motor nerves, comparable to the action of curare, and a direct stimulation of the heart, which is observed only in cold-blooded animals.

Camphor likewise produces an increased blood-pressure, attributable to stimulation of the vaso-motor centres of the medulla oblongata. In the *Archiv. für Experiment. Pathologie und Pharmak.*, vol. xvii, No. 3, 1890, Dr. Lewin has continued the investigation of the action of camphor on the heart, both in warm-blooded and cold-blooded animals.

He has experimented on the isolated heart of the frog, and on dogs and rabbits under the influence of chloral, blood-pressure being reduced to its minimum, and the pneumogastric nerves being cut. He has found in dogs and rabbits so prepared for study, that the administration of camphor by the stomach or by injection into the veins produces a considerable reduction of blood-pressure—a proof that camphor exercises a direct influence on the heart, which is more durable when the camphor is introduced into the stomach than when it is injected into the veins. On account of the stimulating powers which camphor possesses over the vaso-motor centre, it acts as an antagonist to chloral, and Dr. Lewin has noted when the animal has been subjected to the influence of chloral, that when asphyxia was produced by arrest of respiration there is no elevation of blood-pressure. This result is obtained by the subsequent administration of camphor. Other experiments made with bornylamin $(C_{10}H_1N)_9$ and amidocamphor $(C_{10}H_{19}\text{-}NH_2O)$ have given the following results (*Gazette Médicale de Paris*, June 17th, 1890):

"In the frog there is motor paresis with fibrillary contraction, but no generalized convulsions as occurs in warm-blooded animals poisoned by means of camphor. The corneal reflex is very late in disappearing, and then there is noticed a diminution of the excitability of the peripheral nerves and a slowing of cardiac contraction, which is still later in manifesting itself in animals poisoned by amidocamphor. In the final stage of poisoning, paralysis is complete; the animal does not respond to excitation; respiration is arrested, the heart is slowed; but gradually, however, the animal slowly recovers. To obtain these results, it is necessary that the dose of amidocamphor ($\frac{1}{6}$ grain) should be larger than that of bornylamine ($\frac{1}{12}$ grain).

"In rabbits, the bornylamin in the dose of 3 grains, injected subcutaneously, produces within half an hour great excitement and violent trembling; the animal cries incessantly, is soon attacked with convulsions with oscillation, opisthotonos, and clonic contraction of the muscles of mastication. These attacks recur every five or six minutes, and may be excited by the slightest cutaneous stimulation. Symptoms of paralysis then follow, the respiration becomes dyspnœic, and the animal succumbs about half an hour after the first attack.

"Amidocamphor injected into the veins of a rabbit in the dose of 5 grains does not produce convulsions, but simply progressive paralysis. On the other hand, in the white mouse, ¾ of a grain injected subcutaneously produces violent convulsions, which give place to an increasing paralysis, which finally becomes fatal.

"It is thus evident that amidocamphor produces convulsive action in warm-blooded animals. Finally, the paralyzing action of bornylamin and amidocamphor, as is also the case with camphor, is exercised directly on the peripheral terminations of the motor nerves, and is thus comparable to that of curare.

"This analogy of action between the two bases in question, and camphor, is also extended to their effects upon the heart, the circulation, and the respiration." Finally, the author states that the results obtained from this study of the pharmacological properties of bornylamin and amidocamphor are sufficient to establish the close relationship between the camphor group and the toxines.

AMERICAN PHARMACEUTICAL ASSOCIATION.*

The Secretary, John M. Maisch, has issued notices, and the Committee of Arrangements have mailed therewith their circular embodying details of arrangements for the coming meeting at Old Point Comfort.

There is every indication of a very large and pleasant gathering, and a profitable meeting. By addressing Mr. C. E. Dohme, Baltimore, Md., those who are not members and desire to receive the circulars, will have a copy mailed to their address.

It may be stated that arrangements have been made by which a round trip ticket will be issued from New York to Old Point Comfort, and that the return trip will include a visit to Richmond, Natural Bridge, Luray Cavern, and rail to New York; that the trip to Old Point Comfort may be made either by the steamer Old Dominion, leaving Saturday, September 6th, at 3 P. M. (meals and state room included), or trains leave New York by Baltimore and Ohio Railroad, foot of Liberty street, at 2 P. M., and by Pennsylvania Railroad, from foot of Courtland street, at 2.10 P. M. Leave Philadelphia, B. and O. depot, at 4.31, and Pennsylvania depot 4.41 P. M., by rail to Baltimore and Bay Line steamer (meals and state room extra), or by the Cape Charles route, Pennsylvania Railroad to Wilmington, thence to Cape Charles, and from there a steamboat ride of one and a half hours to Old Point Comfort; trains leave at 8 A. M. and 8 P. M., time 12 hours, meals (and sleeping section if by 8 P. M. train) extra.

This round trip ticket will be about $24 from New York, and corresponding reduced rates from Philadelphia and Baltimore. Round trip ticket both ways by old Dominion steamer, $13, including meals and state room. From New York and return by Bay Line steamers and rail, both ways, $13. By Cape Charles route, New York, and return same route, $13.

An arrangement has been perfected by which a special train will take the return party to Richmond in time to have a carriage ride of three or four hours on Friday afternoon, remain over night in Richmond, and a special train to Natural Bridge, where a night's rest will be had at a very delightful hotel. On Sunday or Monday, at choice of members, they can go to Luray, where the most beautiful caves at present known can be visited, and their stay be made at Luray Inn, a most charming hotel. From thence the return homeward to the several residences may be made. For the members from the South and West provision will be made for an excursion ticket from Old Point Comfort to Luray, and thence to the most convenient railroad junction for their return homeward.

All places east of St. Louis, south of Chicago and west of New York City, will come within the convention rate of one full fare going, and if convention certificate is procured with purchase of ticket and signed by P. W. Bedford at Old Point Comfort, the return ticket can be purchased at one-third fare. Note this paragraph particularly.

The Committee of Arrangements have secured reduced rates for carriage ride in Richmond and at the hotels. The round trip ticket prescribes only for transportation and admission to Luray cave; all other expenses are extra, except as noted above.

Entertainments.—The Committee will provide a carriage drive at Old Point Comfort that may be taken at any time during the week; a concert and entertainment by the Hampden students on Wednesday evening; on Thursday an excursion by boat and rail to Virginia Beach, a most lovely resort on the Atlantic Ocean, with a lunch at the Princess Anna Hotel. They have also the promise from Lieut. Col. R. T. Frank, the commandant of Fortress Monroe, of an artillery drill at some hour that will suit the pleasure of the Association. Of the many other attractions at and about Old Point Comfort a special circular will inform those who desire it.

Meetings.—The first meeting will be held on Monday, at 3 P. M.; Tuesday, three sessions; Wednesday and Thursday, two sessions, and the final session at an early hour on Friday morning. There is a goodly number of papers provided for discussion in the several Sections, and every reason to anticipate an excellent meeting.

Exhibits.—The exhibit will be made in the banquet hall, on the second floor, and promises to be a very interesting feature of the meeting.

General Information.—A very large number of the members from portions of New England, New York City and vicinity, and the Eastern half of New York State, with a part of New Jersey, will, without doubt, go by the Old Dominion steamer of Saturday, September 6th. In order to secure state rooms, it is requested that all who desire to go by that route will address P. W. Bedford, Personal, P. O. Box 521, that staterooms may be retained for them. Those who go from the western half of New York, or via Elmira, Harrisburg or Philadelphia, to Baltimore for the Bay Line steamers, will, if they desire to secure staterooms ($1 to $3) on the Saturday evening steamer (no steamer on Sunday by this line); address Charles E. Dohme, Personal, Baltimore, Md.

From St. Louis and vicinity Mr. M. W. Alexander, St. Louis, is arranging a trip for a party, by the Ohio and Mississippi and Chesapeake and Ohio Railroad. Routes from the west that connect with the Chesapeake and Ohio Railroad, land passengers almost at the door of the hotel, and those from the south, via Norfolk, are transferred by steamer. The hotel charges at Old Point Comfort are $3 per day to the members and their friends.

N. Y. Pharm. Record.

A TRADE PRESS ASSOCIATION.

The *Druggists' Circular* for August announces the formation of a Trade Press Association. It appears that on June 17th, the representatives of several of the leading trade papers in the United States met in Philadelphia and effected a preliminary organization of the American Trade Press Association. The organization was completed and the following officers elected at a meeting held at Delmonico's, in New York, on Monday afternoon, July 21st:

President, C. R. Clifford, of Philadelphia; first vice-president, Henry R. Elliot, of New York; second vice-president, Clarence E. Stump, of New York; secretary, Wm. M. Patton, of Philadelphia; treasurer, Benj. Lillard, of the *Druggists' Circular*, New York.

The board of Directors are W. L. Terhune, of Boston; Thomas Hudson, of Chicago; and Joseph W. Gibson, of New York.

The association is to be conducted somewhat on the same plan as is the Associated Press. No two papers with conflicting interests are to be admitted.

The association will be represented by agents in as many cities as shall be deemed necessary, whose duties will be to canvass for subscriptions and contribute news to any or all of the publications represented in the association. The board of directors will appoint the agents, and will exercise the right to appoint sub-committees in the various localities, whose duty it shall be to secure agents for their respective cities.

At the close of the business session the members partook of a banquet, after which the association adjourned to meet in Boston, on the fourth Thursday in August, 1891.

The *National Druggist* in the following language ascribes to this association motives which we hope may not actuate this combination of journal interests:

The coolness with which the triangle of eastern cities—New York, Philadelphia and Boston—assume to represent all America, was never better illustrated than in the formation of a so-called "American Trade Press Association," recently consummated in New York. It is true that, in this instance, Chicago was taken into the deal, but simply because the "little list" representative of the trades could not well be filled out in the three cities named. According to the *Sanitary News*, the association consists of only legitimate trade journals, "and *no paper shall be admitted that in any way conflicts with a publication that is already on the roll.* It further necessitates the unanimous vote of the association to obtain membership."

It characterizes the combination as being organized on Standard Oil methods, the purpose of which is to establish a monopoly in trade journalism.

In other words, the association is an effort on the part of monopolists, who can not hope to succeed in controlling their respective lines of trade on their individual merits, to crush out opposition by combination, and to concentrate American trade journalism in the cities named.

It remains to be seen just what effect on the trade-journalism of the country this monopolistic so-called "American" association will have.

Original Articles.

PRACTICAL PHARMACY.

MANUFACTURE OF BEET SUGAR.

BY J. B. HAWES.

I may remark that, while this paper is not intended to give more than a superficial idea of the process of manufacture of sugar—and machinists and engineers are referred to the books mentioned for detailed information—I have found it necessary to go somewhat into technicalities and to employ plates to illustrate the various processes. Without this the general reader could not possibly get an intelligent idea of the subject.

Standing in the court-yard of a great factory, we see wagon after wagon dumping its load of beets, for each of which the farmer gets a receipt.. No price has yet been fixed, but the farmer must sell to the factory, as beets cannot stand transportation, on account of their weight. The price will be fixed later by the manufacturer.

Through the middle of the court referred to, runs a ditch lined with perfectly smooth tile, through which a rapid stream of water carries the beets to the washing-machines, where all dirt and stones are removed.

It may be here remarked that while there are two ways of extracting the sap from the beet, viz., by pressure and by diffusion, only the latter is employed. The advantages of the process of diffusion are: The cheaper plant required, less workmen and force, ease of keeping apparatus in order, simple inspection of the work, its cleanliness, easy increase of work without corresponding loss of sap, and the entire absence of "press cloths." The only disadvantage is the great amount of water required, which limits such factories to those localties where sufficient water can be had.

The beets having been thoroughly cleaned, an elevator carries them to the top of the building and delivers them to the cutters, where ribbed knives reduce the beet to little cuttings like vermicelli. A railway carries this material and dumps it into the "diffuser." The diffuser is an iron cylindrical tank, made to close tightly, and supplied with pipes above and below. Nine are usually connected together, and constitute what is called the "diffusion battery." This battery forms so important a part of the sugar factory that I must now introduce two diagrams, (Plate 1 and Plate 2), and frequently refer to them in order to explain the process of diffusion.

In Plate 1 are seen nine diffusers, indicated by circles; horizontal shading means filled with water, diagonal lines filled with cuttings, and the balance are empty.

The arrow shows the water entering, and finally the sap leaving the apparatus for the saturator.

In this connection also we must study Plate 2, which shows more plainly the mechanical connections of the battery.

Here the diffusers are also numbered from I to IX, the water-valves W to w_9, the sap valves from S to s_9, the overflow valves from u to u_9, and the calorisators from C to C_9. The tubes V to V_9 connect each diffuser with its calorisator.

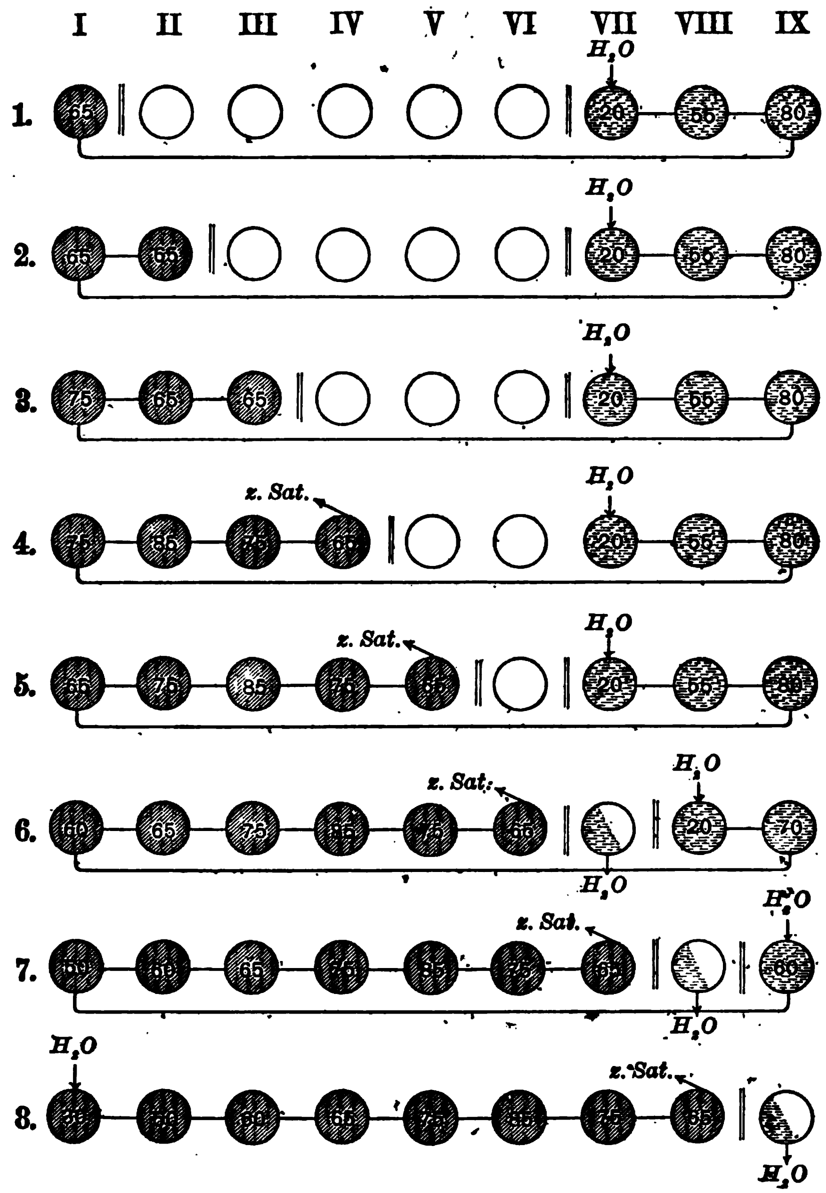


PLATE 1.

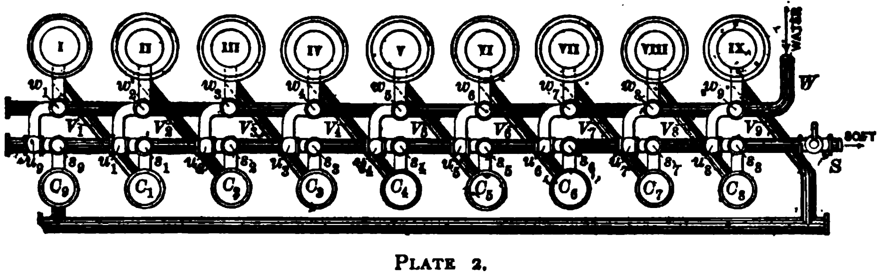


PLATE 2.

In beginning work, water is first warmed in the last vessel of the battery, while the first is being filled with beet cuttings.

First stage.—The water comes from the reservoir through the tube W and valve w_7 into the diffuser VII from above; passes through V_7 to C_7; here ascends and passes by the closed valve s_7 through u_7, over w_8, through VIII, V_8, C_8, over s_8, through u_8, over w_9, through IX, V_9, C_9; travels the short distance from s_9 to s_1 in the sap pipes, streams into C_1 from above, passes V, and ascends into diffuser I from below upward through the cuttings. So soon as the fluid has reached the walls of the man-hole the cover of the diffuser is closed and the water begins to run out of the air-cock, when this is closed.

Second stage.—While the water is entering I, II is being filled with cuttings. When this is done, the water which enters C_9, as previously described, passes over s_9, through u_9, over W from above into the vessel I, and streams through V_1, C_1, s_1, s_2, C_2, and V_2 into the vessel II from below.

Third stage.—The same process is repeated, whereby another vessel is employed.

With the fourth stage begins the departure of the sap. The fluid now takes from C_9 the following direction: Over s_9, through u_9, over w_1, through I, V_1, C_1, over s_1, through u_1, over w_2, through II, V_2, C_2, over s_2, through u_2, over w_3, through III, V_3, C_3, s_3, s_4, C_4, V_4, and ascends in IV through the fresh beet substance. As soon as the cover is closed and all air expelled through an air-cock, the valves from C_3 should be changed. The sap now rising in C_3 goes over s_3, through u_3, over w_4, through IV, V_4, C_4, s_4, and leaves the battery at *S* to enter into the saturator.

The further stages, five, six, seven, and eight, are shown diagrammatically in the table.

With the ninth stage begins the regular work. From now on, of the nine vessels, eight are always working while one is emptied and filled with fresh cuttings. Each diffuser, before being emptied, is completely isolated, by closing the valves, from the rest of the battery. The operation of the valves must be in precisely the order indicated. Failure to do this will cause disturbance. For instance, the closing of the valves *u* and *s* to the right is of importance, as otherwise the water and sap will become mixed, whereby leaching will take place and evaporation rendered more difficult. Further, it should be taken as a general rule that the sap stream should enter every operating vessel from above, except in case of the vessel just filled, when the stream is reversed and ascends from below in order to prevent formation of foam and to drive out all air from between the cuttings.

The temperature must be right in each diffuser, or the sap, as well as the pulp, will be injured. As the sap circulation proceeds without interruption, the principal steam-valve remains always open, and the regulation of the temperature is controlled by the valves from the calorisator.

We will now suppose that the sap has been all extracted from the beet cuttings and has passed over to the saturator as a dirty-looking fluid with a disagreeable taste and smell. In the diffusers remain the pulp, now of no more use in the sugar process, but of much value in other respects. A trap in the bottom of the diffuser opens and the pulp is thrown into a slide, where moderate pressure removes the water as it passes downward to the cellar, to be used subsequently for fodder, for which it is admirably adapted, especially if mixed with substances containing fat and nitrogen, as oil-cake, ground corn, etc. It is stored for use in ditches, after being mixed with chopped straw, and is covered with straw and soil, being packed down as tight as possible. By being stored the pulp ferments and gains in digestive properties and flavor.

We now return to the sap, which has reached the saturator, a vessel made of block-tin, the use of which is the removal of foreign substances and the saturation of the sap. The saturator is half-filled with sap. Lime-milk is now introduced, as well as steam and carbonic dioxide. The steam must be so controlled that the temperature of the sap slowly rises, until at the close of the saturation it amounts to about 85° to 90° C.

The results of the treatment with lime and carbonic acid gas are as follows:

1. The sap, previously dirty, dark, smelling of beets, more or less slimy, and slightly acid, becomes clear, light yellow, thin in consistency, alkaline, and emits an odor of ammonia.
2. The sugar forms, with the lime, a saccharate, which, however, under the influence of the CO_2 is immediately resolved.
3. The nitrogen-holding portion of the sap is resolved through the action of the lime.
4. The nitrogen-free organic acids, as acetic and oxalic, are precipitated as salts of lime.
5. Coloring matters are partly thrown down and partly remain in the solution. Dextrine combines loosely with the lime.
6. Magnesia, oxide of iron, and phosphoric acid are precipitated, and sulphuric acid is also separated, while all the other mineral substances remain in the solution.

By this process, of 100 parts of foreign matter 40 to 50 will be removed. The sap contains yet, however, many impurities, and the next step is to carry it through the filter press, which removes the dirt in the form of a cake. This cake is used for manuring.

A still more important means of cleaning, and one which removes the last of the impurities from the sap, is the filtration through animal charcoal or spodium. This spodium is a charcoal made of bone, and is used in pieces as small as a chestnut, or smaller.

The filter battery, composed of several filters made of block-tin, from 18 to 30 feet high and from 1½ to 3 feet in diameter, as shown in Plate 3.

These are filled with spodium and are packed to prevent cooling of the sap as it passes through. Over the battery are reservoirs for water and sap. The action of the spodium upon the sap is as follows: The sugar is taken up by the charcoal, but is only loosely held, and can be easily removed with water; saccharate of lime is rapidly seized upon and precipitated as hydrate of lime and free sugar; coloring matters are energetically absorbed, and cannot be washed out.

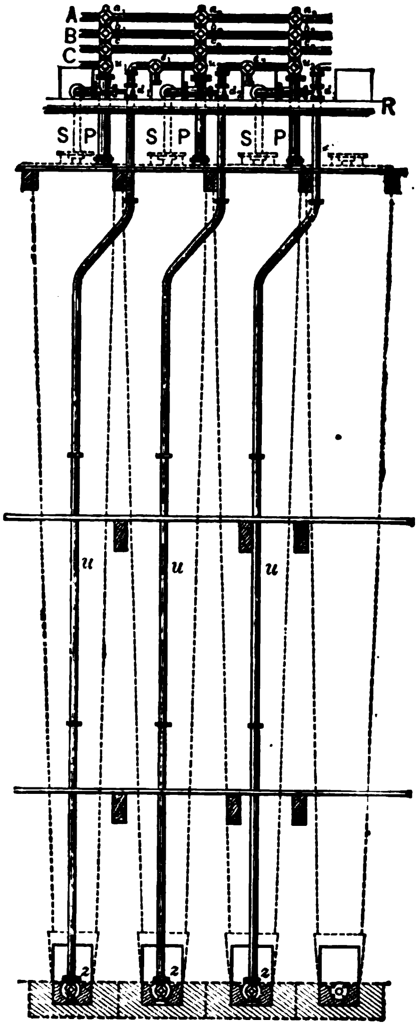


PLATE 3.

The remaining organic non-sugar substances are absorbed, but are not combined with equal force. A part enters into a chemical combination, while another part is only loosely retained by the spodium, and may be again washed out.

The salts act respectively in accordance with their chemical nature.

In spite of many experiments, no good substitute has yet been found for spodium as a filter material. After being used it is washed out and then thrown into a furnace and all impurities burned out, when it is again ready for use.

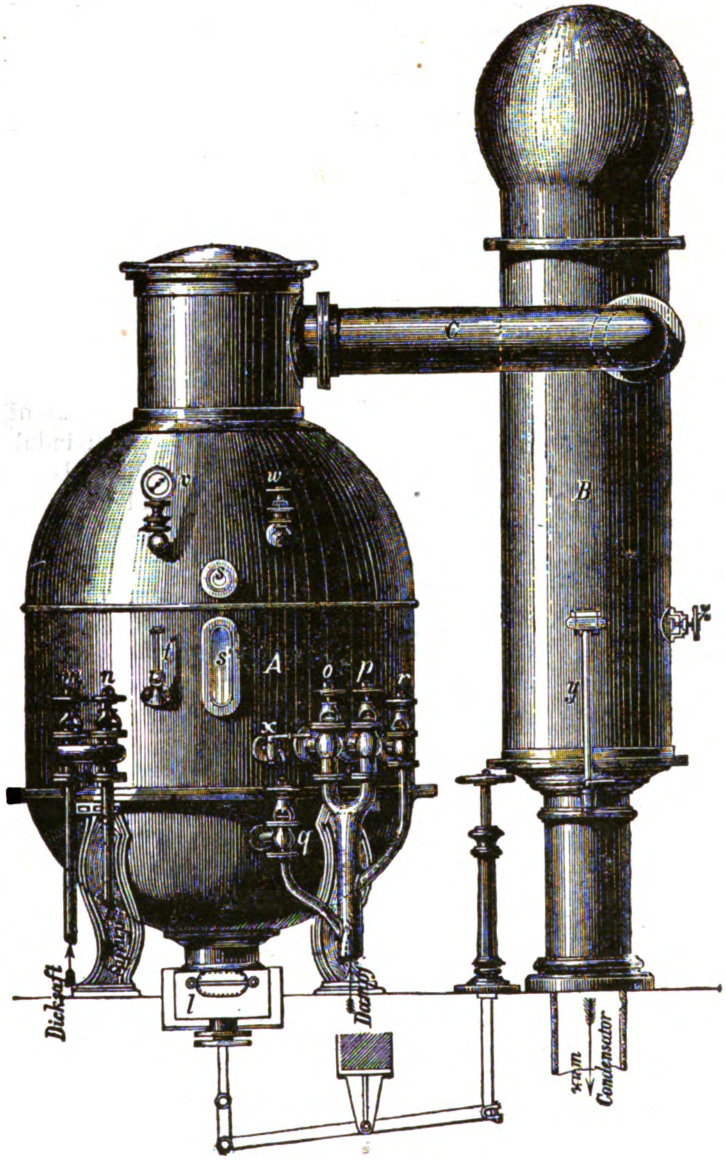


PLATE 4.

The sap must now be concentrated, and this is done by steaming and boiling until the right consistency is reached to favor crystallization. As a high temperature is objectionable, use is made of the well-known physical law that boiling takes place at a lower temperature in a vacuum, and the vacuum apparatus shown in Plate 4 is employed.

The material is now let off into cooling-pans, where crystallization begins, and from here the mass is poured into block-tin conical moulds, and finally comes out as the familiar sugar-loaf.

A second quality of sap is conveyed to the centrifugal machines, which revolve about a thousand times a minute, with the effect of causing the crystallization of a great ring of white sugar, while the balance is drawn off as molasses, no further crystallization being possible. These rings of sugar are crushed and packed in sacks for market, constituting the so-called "pilé."

THE ADVANCE OF ADVERTISING.

BY JUSTIN W. M'EACHREN, PH. C.

To the memory of Lourens Janszoon Coster, of Haarlem; Johannes Guttenberg zum Jungen, Knight of Mainz; Faust, Schoeffer, or whoever it was that invented the art of printing from movable types, should be presented the grateful homage of the commercial world of to-day, for that person has made possible our widespread commerce and active business competition. Little dreamed this early master of the printer's art, as he laboriously carved the autograph text of a Papal indulgence or rescript, that he was laying the foundation upon which, four centuries later, men would build colossal fortunes; that the sweep of the graver, as it carved the quaint old letters, would keep on broadening and broadening till it encircled the world, and the influence, started at Haarlem or Mainz, first used in the spread of superstition, would, ere many years had passed, form the mainspring of cosmopolitan trade, and carry intelligence and activity into the heart of Africa and the "isles of the sea."

Scarce two hundred years had passed, after the invention of movable metal types (undoubtedly first used by Coster, of Haarlem, in 1445), when there was born (1615) in Frankfort-on-Main the first newspaper; and this journalistic infant was but 33 years old when the first advertisement made its appearance (in the *Mercurius Elencticus*, Oct., 1648). In passing, it may be of interest to say that in 1883 the *Frankfurter Journal*, founded in 1615, was still in existence. Almost co-existent, then, with the advent of the newspaper, and kindred journals, came advertising. At first the advertisements were principally published by stationers; in fact the first newspapers were issued by stationers for the direct benefit of their trade. Their good example was soon followed by other tradesmen, and even professional men in that early day unblushingly took advantage of this new medium to let people outside of their own little world know of their existence, and that their vast intelligence was placed at the disposal of a not over-enlightened populace, in exchange for a slight monetary consideration.

The disposition of the world's inhabitants is not much different to-day from what it was in the 17th century. Credulity is a characteristic of the human family now as it was then. This fact was taken advantage of, in the early history of advertising, by men of sharp business capacity, and in consequence, plausibly worded advertisements found their way into the newspapers of the day, bolstering up products devoid of merit, or floating schemes, as barren of financial solidity as the Sahara is of foliage. The increased sale of the products, and success of the schemes, proved the great value of advertising, and soon established it as one of the most important, if not the most important, of all the aids which have fostered and increased commerce to its present active state and high standing.

The first advertisements were exceedingly verbose, and bombastic, yet only in keeping with the style of language and tastes of that age which cradled classic Anglo-Saxon. Here is a sample taken from "*The Certain News of the Week*:"

> "If any gentleman, or other, accustomed to buy the weekly relations newes be desirous to continue the same, let them know that the writer or transcriber rather, of this newes hath published two former newes; the one dated the second, the other the thirteenth of August, all which do carry a like title, and have dependence one upon another, which manner of writing and printing he doth purpose to continue, by God's assistance, from the best and most certain intelligence."

In our hard, matter-of-fact day, we put it thus: "Please write for back numbers."

Following so closely upon the time when books were produced by the tedious use of the pen or stylus, the earlier advertisements naturally partook somewhat of the flourishing style of the artistic scribes, of the fourteenth and sixteenth centuries, and we consequently find grotesque designs, remarkably shaped letters, and quaint expressions, characterizing these first attempts at stirring up a too backward trade.

A hundred years had not passed after the establishment of newspapers, before advertising had grown to such dimensions that all branches of commerce acknowledged its power and usefulness, and the tradesman who did not advertise ran small chances of winning the golden wreath in the commercial race. Those manufacturers, or dealers, who offered products of unquestioned value found this new medium increase their sales and enlarge their territory; but what a boon it must have been to those who were manufacturing or offering for sale articles of little or no value! To such it formed the only basis of success, and they took full advantage of it. Thus, the man who had been obscure in 1600 and defrauded scores, became famous in 1700 and defrauded thousands. The fraud who had hoaxed the dwellers in a country lane then, now sat in his sumptuous office and hoaxed a nation. Quacks rapidly became prominent, business assumed a bustling activity, and the newspaper "flourished like a green-bay tree."

The success and growth of advertising soon attracted the extravagant governments of that gilded age, and they put their avaricious paw, in the shape of a tax, upon the advertisements which appeared in the newspapers. This tyranical tax upon intelligence greatly retarded the spread of the new enterprise, yet, even shackled by such an unjust law, we find it gradually growing, and its value to the tradesman may be deduced from the fact that in 1832 the income from the duty upon advertisements, in the United Kingdom alone, amounted to £172,570.

As we have intimated in a foregoing paragraph, those most benefited by the spread of advertising, were persons marketing inferior or worthless articles, and among this class none derived so much benefit or attained so great an opulence as the vendor of quack medicines, or secret nostrums. So great was the help afforded the "quack" by the advertising columns of the newspapers, that a well known authority has said: "The sale of some commodities (such as quack medicines) depends almost wholly upon advertising, of which it has been said, that if the vendor has the courage to continue advertising to the extent of £20,000 he will make his fortune by a drug thoroughly worthless." (*Ency. Brit.* p. 178). In an age when superstition was a virtue and ignorance almost world-wide, these prototypes of the modern "patent medicine man" reveled in a perfect phantasy of typographical and pictorial lying, which would fill with envy the modern "quack" who through our newspapers and journals, daily insults the intelligence of an enlightened people by clipping pages from the books of the Magi and palming them off as facts. Oh shade of Ananias! how the modern quack out-lies thee! Yet he is but a pigmy in comparison with some of the giant-nostrum-liars of the last century. We hear enough to-day of manufactured testimonials and wonderful statements, but it was the province of an eighteenth century quack to stamp his nostrum "*medicamentum Gratia probatum*," thus capping the climax of "testimonials from thoroughly reliable sources." To-day the patent medicine or nostrum manufacturer does well when he advertises a panacea outrivaling the fabled qualities of *elixir vitæ*, but in those "grand old days," this was only the starting point; they stopped not till they had positively affirmed that "soul troubles of a most grievous nature" could be dissipated by the timely exhibition of their concoctions, usually mixtures of some simple herbs, a sprinkling of astrologic incantation and a deal of humbug.

At this stage of our sketch we come, almost unconsciously to the consideration of the advertising of medicines, not through any design on our part, but simply because such a consideration is the natural sequence, owing to the fact that the advertising of preparations for the alleviation of human ailments, nearly equals that of all other advertising combined, and considering it, we practically consider all.

We observe that the advance of medical advertising is marked by a decrease in misrepresentation. We laugh to-day at the bombastic nonsense and superstitious utterances, of the quack of the 18th century, just as our descendents will laugh at the mythical statements of the quack of the 19th century. The march of knowledge and enlightenment, which received its impetus from the Reformation and Revolution, soon showed the people the absurdity of their old superstitions, and remedies once revered as household gods were soon relegated to the oblivion they so richly merited.

Yet if the quacks could no longer commend nostrums that would not only cure physical ailments, but "cast out devils," cement friendships, and in divers other ways effect the spiritual constitution, there still existed enough ignorance to permit them to put in the one bottle, powder or pill, a cure for consumption, liver and kidney complaints, nervous prostration, "softening of the brain," catarrh, some stages of lunacy, and "ingrowing toenails."

We notice then that as knowledge increases among the masses, misrepresentation in medicine advertisements has to retire, and the improved tone of such advertisements to-day, over those of the last century, is not so much owing to the conversion of the quack as to the enlightenment of the people.

What then is the obvious deduction? Undoubtedly this: That quack advertising is an appeal to ignorance and an insult to intelligence. and that it will eventually burn itself out with its own fire, from lack of fuel upon which to feed.

It remained for the last quarter of the 19th century to strike the key-note of advanced medical advertising, and to ring the death knell of charlatanism, by appealing only to persons of high intelligence and avoiding any approach to misrepresentation, and this system has gone on widening in its influence, gaining in power and quality, till it now employs the pens of the brightest medical scientists and concerns the highest and noblest interests of suffering humanity.

The quack advertisements of to-day, on the contrary, appeal to the ignorance and credulity which still exist in the world, to the detriment of those higher qualities which go to make up the basis of civilization. It is a system of misrepresentation, fostered by avarice and based upon ignorance. Its malign influence concerns all intelligent persons, but especially those whose duty it is to prescribe, manufacture and dispense products intended for administration to the sick, and no opportunity should be lost by pharmacists or physicians to discourage and stamp out charlatanistic methods of vending medicines, and aid the growth and advancement of a system which appeals to intelligence and truthfulness, and bespeaks trustworthiness and a commendable desire not only to relieve suffering, but to raise the intellectual standard of the people.

We may state it as an axiom that the fewer instances we have of misrepresentation in the advertising of medicines, the more wide-spread will be intelligence among the people, and when these misleading finger-boards along the highway to health no longer exist, ignorance will have ceased to be a characteristic of humanity. Intelligence and charlatanism cannot breathe the same air, and both live.

DETROIT, MICH.

THOUGHTS ON CURRENT TOPICS.

BY H. M. WHELPLEY, M. D., PH. G.

During the summer months we hear much about the influence of locality on the health of citizens. It is probable that some sanitary surroundings influence prevalence of diseases at all seasons of the year to even a greater extent than is realized even in hot and sultry weather. Physicians who have a general practice in a large city, soon learn what districts are favorable to certain diseases; the country practitioner likewise finds from experience that one section furnishes him more professional calls than another. While the general public should study geography in this relation before they take up a residence in city, town, or country, the druggist can make another use of the state of affairs. A pharmacist can locate where the most sickness prevails, and render the poor unfortunate citizens a favor by the convenience of his store. At the same time he will be increasing his trade and bettering his chances of being able to attend his State Pharmaceutical Association and the A. P. A. I do not, however, advise such druggists to live with their family over the store. In such cases the home doctor bill might cut quite a hole in the profits on other prescriptions.

The reference to living over the store reminds me of how some of the unfortunate drug clerks in cities are obliged to live during the few hours of time they are supposed to sleep. I allude to quite a proportion of those who are night clerks in stores that do not keep open all night, but have some one sleep in the place to answer that much-dreaded and long-to be-remembered night-bell. The accommodations, or rather lack of accommodations, which are noticeable in some stores, when a person is permitted to see behind the curtain, is surprising. What has impressed me as much as anything else is the fact that you cannot judge of the accommodations from the general appearance of the store. Some of the finest stores in this city have the poorest arrangements for the night clerk, while others of much less pretentions, and certainly with less attractions for customers, have comfortable quarters. The clerk who has served his time in a number of stores, learns to look to this consideration before he makes an agreement to clerk for a druggist. I think that many of the cases are so through thoughtlesness, but I know of some that are not, for complaining clerks have found that it is, "put up with the accommodations, or get out." And more than one clerk gets out and leaves the position for another to tackle.

Such a condition of affairs as I have just mentioned is not as hard as are the positions in a few stores where poor beds are the smallest of inconveniences. This city, like every other, has one or more druggists who are known to the initiated as terrors to work for under any considerations. They are the places where strange clerks striking the city, find a position with the privilege of going to work at once. As a rule, the clerk gives up the place soon after. There is one druggist in the State of Missouri who keeps a standing advertisement in the drug journals asking for clerks. He manages to keep one until another turns up, and that is all. He is pretty well known among the clerks, but still it has not been long since one gave him a trial in spite of the protests of several fellow pharmacists. His business relations with the celebrated pharmacist did not last a week. I do not imagine that these exceptions are peculiar to the drug business. The men are hard to deal with as "men," and not as druggists. The same class are found the world over in all lines of business. Let the unwary drug clerk avoid them.

To offset these criticised pharmacists, we find clerks who can not hold a position—as some one has said—long enough to draw a salary. They are chronic position-seekers. It is amusing to hear the excuses they make for being out of business. Many of them have nothing bad about their character, but are simply useless appendages to the army of drug clerks. They cannot earn enough to justify any one in paying them. Others are smart and active, but not trustworthy. It is evident that a pharmacist, be he clerk or proprietor, must know something of human nature and the ways of the world if he is to succeed.

It is actually surprising to find what small salaries are paid to many of the drug clerks in the cities. We very naturally look for comparatively low wages in country places, where board is cheap and it does not cost so much to dress and enjoy an occasional day off. But the salaries cannot be much lower in any place than some druggists are paying here. A solicitor who visits the city druggists frequently, says that some get assistants of two or more years' experience in city stores who will work for their board and five dollars a month. They work too, and work hard, for fourteen and sixteen hours a day for seven days in the week. The time off is one afternoon of each week and every-other-Sunday. I believe, however, that graduates in pharmacy are as well paid here as in any city. And they should be well paid if they must work for almost nothing for the four years of their apprenticeship.

Among the small pleasures of life as a retail druggist, which go to make up remuneration for his work, is the amusement derived from odd orders. There is scarcely a pharmaceutical journal in the country but what publishes them, and but few druggists who do not enjoy studying out the puzzles. I know of a few druggists who take advantage of opportunities as they pass, and save up all the odd orders they receive. When these are pasted in a scrap-book they form an interesting volume which well repays for the work. It is often as important to be able to decipher such "prescriptions" as it is to be able to compound those of eminent physicians, so the study is a useful education as well as amusement. How would it do for a number of druggists to bring such documents to the State meetings for study at odd times? I think it would take well.

A fellow feeling often makes people wondrous kind, at least so we are told. Well there is a peculiarity about the drug business that gives a person a feeling that they never forget. As some one has said: "Once a druggist, always a druggist." I have met many persons who have long since given up the business, but somehow they always feel at home among druggists, even if they are strangers. This feeling is very noticeable at association meetings and other gatherings where druggists meet in a social manner. As F. W. Sennewald says: "Druggists may be cranks at home, but they are jolly good fellows when they get away from business."

I believe that this social influence is one of the most powerful and valuable features of our State and National Associations. It places the druggists in a position to work for common interests that they never would if it were not for the social gatherings. The members go home with a better opinion of themselves and those whom they have met.

I cannot finish these items without referring to that forthcoming volume for pharmacists and physicians, the revised Pharmacopœia. Although the Revision Committee is no larger than it was ten years ago, when the the work is being done by many more persons. This comes from the part the retail druggists of the country play through their State and other associations. The druggists are commencing to realize that the Pharmacopœa is a work by the druggists for the druggists, and that they are the druggists. This is a guarantee that it will be used to a much greater extent than the previous edition. The criticisms of the new authority may be many, and some of them severe, for more of the pharmacists will feel free to speak out their mind. This will not belittle the Pharmacopœia or render it less useful, but have a tendency to improve each succeeding revision.

The Committees on Pharmacopœia of the State associations are in a position to work during the next ten years. These Committees, and still less the members of the associations, have understood what was required of them in the past. It was new work and necessarily imperfect. The changes in this direction have been very great, for ten years ago when the present revision was in the hands of the people for completion, there were but few State associations in existence, and but few of them had special Committees on the Pharmacopœia.

I hope that the California druggists will be recognized as far as possible in the present revision work. Owing to the great distance across the continent, and the time required to communicate, no one was elected on the Revision Committee, but they should not be forgotten.

The part the California pharmacists took in the scientific feature of the last annual meeting of the American Pharmaceutical Association, demonstrated that they are no small part of the pharmaceutical body of this country. In both number and quality the papers presented by the California members compared favorably with not only every other State, but quite a number of States combined. Any one who has had experience in working for a good list of papers for the Scientific Section of the A. P. A. can appreciate what it means to secure the number of valuable contributions that our Californian friends gave us.

It is gratifying, and rather surprising, to see how kindly the druggists of the country are taking to the adoption of the metric system in the Pharmacopœia. Many seem to feel that it must come sooner or later, and that the present is just as good a time as any. After a few months of work with the new weights and measures, they will be surprised that they ever feared the change. The metric system is now not only a legitimate, but a very appropriate, subject for the State Boards of Pharmacy to introduce in their examinations. No person should be registered as a pharmacist in any State who cannot give the principles of the metric system. The colleges of pharmacy have for some time given considerable attention to the metric system, and it is fair to presume that they will renew the effort to teach it thoroughly.

The Section on Pharmacy of the American Medical Association will open the way for the presentation of the Pharmacopœial work to the leading doctors of the country. The delegates from State Pharmaceutical to State Medical Associations can also do much in this direction if they only will. The representation of the medical profession in the Pharmacopœial Convention is all right, but a more general understanding among the practicing physicians of the country is what is now wanted. Teach them what the Pharmacopœia is, as a work, for their use. One of the extreme illustrations of ignorance on this point was shown by a physician delegate to the Convention who supposed that he came as a delegate to a convention to revise the United States Dispensatory. His latest edition was the fourteenth.

The student who enters a college of pharmacy this year as a junior, will have double work before him, as far as the Pharmacopœia is concerned. This year he will study the formulas and botanical sources, etc., from the present revision of the U. S. P.; next term, at least in the latter part if not all through, he will be given the new revision to master. Thus it is that he will get an insight into both volumes. Some may look upon this as a hardship, but it is far from being so. A knowledge of both works will never come amiss, and the first year in business will prove it to the student's entire satisfaction.

It is the druggist who has been in business for thirty or forty years, and seen three or four revisions of the Pharmacopœia, that will scowl when the new one comes out. As a druggist said about the National Formulary, it "will be hard to keep up with." I hope that the majority of the druggists will become familiar with it by actual use, as with the National Formulary. One prominent druggist here said that when he has any unofficial preparation to make he looks in the N. F. for it first, and only refers to other authorities when he fails to find it there. The way to use the new Pharmacopœia will be to look in it for everything that is manufactured, for many formulas not official at present, will be when the revised work comes out.

St. Louis, Mo.

BOTANY AND MATERIA MEDICA.

TRIUMFETTA SEMITRILOBA, L.

(*Cousin Mahaut. Cardillo de perro.*)

BY H. H. RUSBY, M. D.

An article which appeared in the *New York Herald* of last year, and which appears to be based on a report by Dr. de Verteuil, of Trinidad, published in his list of medicinal plants of that Island, has excited some interest in this plant. Although the grounds for attributing to it medicinal value are altogether insufficient, and it would perhaps better have been excluded from medical literature, yet it has attracted some degree of attention, and as its botanical history presents interesting features, we make room for the principal points in reference to it.

Concerning its medicinal history there is very little to be said. The entire order Tiliaceæ is noted for an almost utter lack of therapeutic properties. Its plants, like those of the closely related order Malvaceæ, abound in mucilage, but are marked by an absence of other principles. Linden flowers have always enjoyed some repute for their diaphoretic and slightly antispasmodic properties, and are still used rather largely in Southern Europe; but beyond this the family is without history except for the species now under consideration and its near relative *T. Lappula, Lin.*, which accompanies it in tropical America, and of which Lindley says (*Med. Fl.*, p. 148): "The mucilaginous, and at the same time astringent, properties of the leaves and fruit of these shrubs, called Carapixo da Calcada in Brazil, which grow everywhere, especially on the roadside and in the vicinity of dwellings, render it serviceable for injections in inveterate gonorrhœa." Its more recent use is simply as a digestive stimulant, in which it would seem in some cases to have been useful. But in the absence of any precise information as to the nature of the cases, it is impossible to judge of its mode of action, or to form any rational estimate of its value, or to give directions for its employment.

Botanically the plant is of interest chiefly because of its wide distribution, some idea of which may be gained from the following quotations:

Prof. A. H. Curtis appends to his collection labels the following note: "Rich calcareous soil near dwellings, Bay Biscayne, Florida."

Grisebach in his *Flora of the British West Indies* says: "Jamaica, St. Vincent, Trinidad. (All tropical countries of the globe; e. g. Cuba, and Mexico to Venzuela and Guayaquil; tropical Africa; East Indies.")

Oliver's *Flora of Tropical Africa*, i, 157, gives five localities in Upper and one in Lower Guinea, and says "a widely distributed weed, some of whose varieties approach *T. rhomboidea*, but have larger fruit."

Hooker mentions it in his *Flora of British India*.

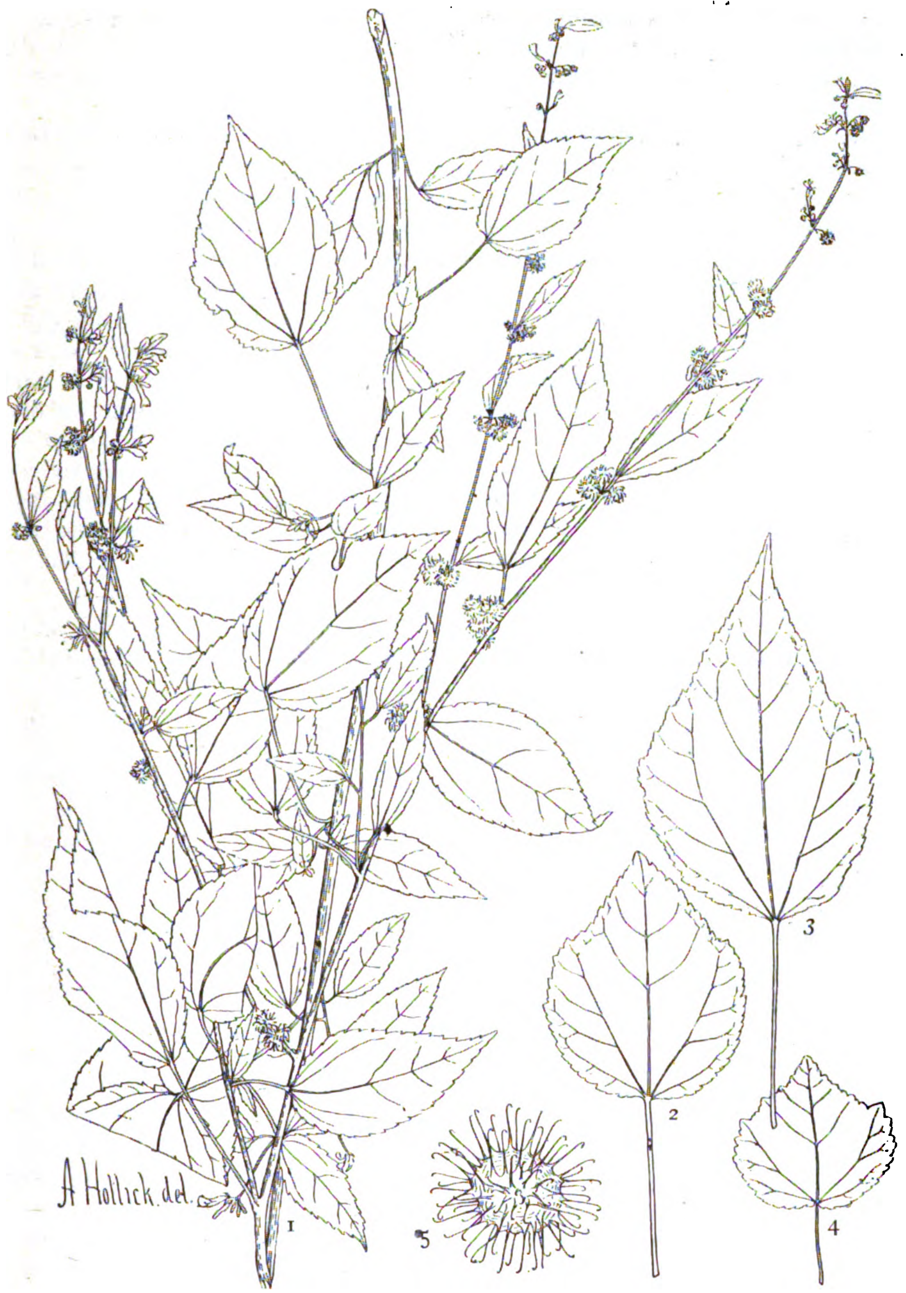
Hemsley in the *Biol. Cent. Am.*, p. 138, mentions it as having been collected in Southern Mexico, Guatemala and Panama, and says: "This has a wide range in tropical America and the West Indies; also common in the tropics of the Old World."

In the *Flora of Brazil*, fascicle 98, Endlicher gives similar testimony as to its wide distribution and mentions a score or more of localities in South America, chiefly in Brazil. He describes three varieties, namely, a var. *typica*, the var. *Braziliensis* of Schumann, and the var. *Martiana*, also of Schumann. The latter variety is shown in our Fig. 4, differing in having the lower leaves on very long petioles, indistinctly 3-lobed, mollous and sub-stellate. This *is a very common form in Brazil.**

An explanation for this great range is to be found in its habit of growth and method of distributing its seeds. As will be seen from the appended description, its fruit separates at maturity into three little one-seeded nutlets, and these are thickly armed with strong and barbed bristles or spines. The facility with which these adhere to passing objects is very great. Sheep and dogs particularly gather them up in making their way among the the plants—a fact which is indicated in the Spanish name, meaning the *dog thistle*. Growing, as the plants do, thickly along roadsides, a most favorable opportunity is afforded for utilizing this point of structure. But there

---

*Endlicher gives us as synonyms *T. cordifolia* and *T. longiseta*, of Guillem. et Perrott., *T. heterophylla*, Griseb., non Lam., *T. Havanensis*, H.B.K. (which he places as the *forma Havanensis* of the var. *typica*), *T. calcyculata*, Vell., *T. sepium*. *T. obscura* and *T. tricuspis*, St. Hil., *T. Salzmanni*, Turcz., and, with some doubt, *T. ovata*, DC., *T. ulmifoliæ*, Desv. *and T. diversiloba*, Presl. To this I may add that I have collected it at three localities in Bolivia, and Raimondi has collected it frequently in Peru.



Explanation of Cut.— *Triumfetta semitriloba*, L., reduced one-half. Fig. 1, Flowering and fruiting specimen from Guatemala, collected by John Donnell Smith; Fig. 2, Leaf of specimen from Florida, collected by Chapman; Fig. 3, Leaf of specimen from Mexico, collected by Pringle; Fig. 4, Leaf of specimen from Brazil; Fig. 5, Hooked appendage of fruit, much magnified.

are many other plants equally endowed in these directions which yet fail to distribute themselves so widely; for not only must their seeds be widely dispersed, but their species must be gifted with the power of endurance through many varying conditions. This advantage our plant possesses. It thrives with equal vigor, and propagates with equal freedom, at all elevations, from the seashore up to six thousand feet. No peculiarities of soil, from the sandy to the rocky, seem to affect it, and it adapts itself readily to either a very dry or a most humid climate. One thing only does it especially demand: It must have a tropical heat—one absolutely free from frosts. I have never yet seen it pass the frost line of altitude, or of latitude either north or south.

It will thus be seen that should the plant, in spite of all indications to the contrary, ever develop valuable qualities, either in medicine or as a fibre plant—for which use it has been proposed—the conditions are favorable for an unlimited supply.

It pertains to the second tribe (Grewiæ) of its order, distinguished from the genus Erinocarpus, just preceding it, by its small fruit, and from Heliocarpus, just after it, in that the latter possesses a compressed and somewhat two-valved fruit. The genus *Triumfetta*, L., is thus described in the *Genera Plantarum*, i, 234:

> Sepals 5, distinct, the apex usually fornicate or mucronate. Petals 5, the base glandular thickened or foveolate, inserted near the base of the torus, rarely none. Stamens indefinite, or rarely twice the number of the sepals, inserted on the upper part of the elevated, externally 5 glandular torus, free. Ovary 2 to 5 celled, the cells 2 ovuled; style filiform, the stigma 2 to 5 dentate. Capsule (small) subglobose, echinate or setose, indehiscent or falling away as nutlets. Seeds solitary in the cells or nutlets, or if geminate, separated by a spurious septum, pendulous, albuminous; embryo straight, the cotyledons leafy, plane. Herbs, undershrubs or shrubs, stellate-hairy. Leaves serrate, entire or 3-lobed. Flowers yellow, axillary or opposite the leaves, few or densely fasciculate-cymulose.
>
> Species about 40; the large flowered in tropical America; of the small flowered some widely dispersed over both hemispheres, others more limited, especially in Australia, Madagascar and Southern Africa.

The genus is divided into two sections, one having indehiscent fruit, the other separating into three nutlets.

In youth the ovary is hairy and in age it may either remain so, or hooked setæ may develop. The species are so numerous and so similar that it is only by close attention to a minutely detailed description that one can be positive of the genuineness of a specimen. An excellent description is the following by Endlicher, translated from the *Flora of Brazil*, fascicle 98, p. 134:

> "*T. semiltriloba*, L. Stem terete and glabrate at the base, above tomentellate or more or less tomatose or sericeus; leaves disposed at ⅖, more or less long petioled; stipules subulate, drying blackish, shorter than the petioles, subpersistent; blade highly polymorphous, those of the inferior leaves 5-lobed or broadly ovate pentagonal, the upper oblong or linear oblong and lanceolate, acuminate or acute, the base cordate or truncate or cuneate, doubly serrate, varying through mollous, tomentose, tomentellate or glabratish; inflorescence racemose, usually leafy below, the groups composed of three to four 3-flowered dichasiæ; sepals linear, shortly apiculate, tomentellate without; petals spathulate, ⅓ to ¼ shorter than the calyx; the hood shortly repand-dentate, ciliolate; stamens 12 to 17 (20 to 25), filaments pilose at the base; pistil exceeding the stamens, trimerous; capsule glabrous and laden with hispid spines."

MONTHLY REVIEW.

Of great interest is the announcement made by a Dr. Nicolai, and discussed by *The Lancet* (London), to the effect that he has succeeded in isolating the active principle of Jequirity in the form of a white powder, and that it is an amorphous ferment. In sufficient strength its bacteria-free solution promptly produced the characteristic conjunctivitis, while a weak solution failed to do so, in spite of its teeming with bacteria. This would seem to dispose effectually of the bacteria theory of the action of preparations of jequirity. Its power was destroyed by borax and alcohol, and by heat, a lower temperature in solution than when dry. Corrosive sublimate, chloroform and ether did not affect it. Taken into the circulation, it is poisonous.

The long-mooted question as to the cause of the peculiar injury to the intellectual functions resulting from the habitual use of Absinthe has received recent attention from a commission of the *Académie de Médecine*, consisting of Drs. Ollivier and Laborde, who confirmed the generally accepted belief that such injury results from the Absinthe, itself, and not from the oil of anise contained, as had been claimed by recent contributors.

The principle by which the *Pengawar djambi* arrests hæmorrhage from bleeding surfaces has been the subject of much discussion. Although various theories have been proposed, it has been generally believed that it acted mechanically, just as the lint of other fibrous substances might do. The *Medical Age*, page 288, reprints some recent discussion on this subject. It is there claimed that it has no blood-coagulating properties, and that it is its greater pressure against the bleeding surface, due to its greater elasticity, which enables it to act. This view, however, is denied by another contributor, who claims that the same result will be obtained where no pressure is exerted, and he believes that it "develops its activity only through mechanical irritation of the vessels which it causes to contract." In support of this position, he states that there is the greatest difference between the activity of fresh and old samples.

The discovery of applications for the minor alkaloids of opium is a subject which has long enlisted zealous effort, but thus far without any results which could compare favorably with those attending the investigation of morphine. Codeine has been perhaps the most extensively studied of any, but until recently it has not shown any indication of attaining any considerable importance in practice. Dr. H. C. Wood, in his work on Therapeutics, reviews the experimental studies preceding his own, and concludes that it has some narcotic power, but that this is feeble and uncertain as compared with that of morphine, and its use is likely to be followed by disagreeable symptoms of nausea. His only note in support of its practical value is to the effect that he has found it of some value in half-grain doses in allaying bronchial irritation. But for some years past there has been a growing estimate of its value as a bronchial sedative, and this esteem has been most thoroughly justified by the results of practical investigation by Dr. G. Kobler in the Vienna Hospital. Dr. Kobler's report is discussed ably and at length in the *Therapeutic Gazette*, page 388. To present any adequate review of this communication without reproducing it in full is impracticable. The whole article will well repay careful reading by those interested in the future of this drug. Dr. Kobler finds that there is a marked specific sedative influence exerted upon the respiratory tract, and that in addition thereto the organs are assisted in getting rid of the products of secretion. He finds that if the doses are moderate there is no subsequent tendency, or at least only rarely, to nausea; but there is frequently a decided laxative influence exerted upon the bowels, a fact which he points out will be, although a disadvantage in some cases, a decided advantage in others. His experiments on animals established the fact that codeine is one of the agents whose effects differ most markedly in kind with the varying size of the dose. For while small doses are only sedative and tend to contract the pupil, large ones result in the production of tetanic convulsions with widely dilated pupil.

Under the title "Some Therapeutic Uses of Butter-Milk," Dr. Stanley M. Ward (*Therapeutic Gazette*, page 369) eulogizes the influence of this simple agent in the treatment of renal and gastric disorders. That buttermilk is an efficient and valuable diuretic is well known to everyone who has had an extended experience with country customs. But the instances of benefit to people suffering from serious forms of acute or chronic Bright's disease which are cited by Dr. Ward, are very striking. In one case he states that on several occasions "the urine, under heat and acid, was almost solid in the test tube." But it is in the treatment of gastric disorders that Dr. Ward himself has had the happiest experience. In the condition of acid eructation and persistent vomiting, including that of pregnancy, he has found it to work promptly and satisfactorily. He appends the caution of using only a perfectly fresh article, ice-cold if possible, and to begin with very small amounts, only a teaspoonful or so, repeated every few minutes.

The discovery by Dr. Lépine of a new function of the pancreas, discussed on page 376 of the *Therapeutic Gazette*, although physiological in its nature, constitutes a legitimate subject for this column, as pointing the direction to a new line of medication in the future. Dr. Lépine discovers that the pancreas produces a ferment which possesses the property of destroying glucose, and that its serious disease is therefore favorable to the development of diabetes. Not only so, but in an initial way he has succeeded in favorably modifying the diabetic symptoms by treatment consisting in the introduction to the circulation, in one way or another, of products containing this ferment, as well as by medication stimulating the functions of the pancreas. The preparation of this class of ferments is as yet one of the unexplored territories of pharmacy, and it is a territory which is certain to receive the most earnest attention of investigators in the future. It is possible that from this discovery of Dr. Lépine will yet result the introduction of a valuable agent to the treatment of diabetes.

Dr. William Murrell writes in *The Lancet* in support of the use of Gurjun balsam as a stimulating expectorant.

Dr. A. Haig states in the *American Medical Journal* that he considers the salicylate of sodium about 13 times as powerful as salicin in favoring the excretion of uric acid, while salol occupies an intermediate position.

The blue color-reaction of nitro-benzol with coniin appears to be worthless, the results in previous experiments having been due to impurities in the nitro-benzol which was used.

The *Medical Age* takes up the *British Medical Journal* for accepting and seriously discussing a newspaper rumor to the effect that "American ladies" have become addicted to the use of lozenges containing $\frac{1}{30}$ grain strychnine, as a bracing tonic to relieve *ennui* at the theatre and at the church. "Their place in the church," says the *Journal*, "before long would only be as a passing prelude to doleful funeral services!" Are any of our readers familiar with any facts in support of this rumor?

A new series of publications has been instituted by the Botanical Division of the United States Department of Agriculture, entitled *Contributions from the United States National Herbarium*. The first number is dated June 13th, and comprises an enumeration of several collections of plants made for the Department by Dr. Edward Palmer. Much additional value is given to the publication by appending to each name the field notes of the collector, concerning color, habit, habitat, occurrence, distribution, economic uses, etc. Among the interesting economic notes are those informing us that the leaves of ***Thelypodium integrifolium***, Endl., are cooked and eaten by the Indians, and that the same Indians also use ***Aphyllon californicum***, Gray, as an article of food. The only notes of medicinal interest are those concerning an undetermined species of ***Salvia***, called "Chia" by the Indians and Mexicans, and used for preparing a cooling beverage, and the fact that ***Rumex hymenosepalus***, Torrey, is locally known as "Yerba Colorado" and "much used as a medicine, especially in venereal diseases, flesh-wounds, etc." The catalogue covers a collection made in 1888, in Southern California, and in 1889, in the region of Lower California at Lagoon Head, Cedros Island, San Benito Island, Guadalupe Island and near the head of the Gulf of Lower California. Altogether 945 species are enumerated.

Dr. Cattani is quoted in the *Lancet* concerning the antipyretic properties of paramonobromacetanilid, or antisepsin. Its use in pneumonia with high temperature and and in typhoid fever shows that its power to reduce body heat is equal to that of acetanilid. It likewise has anti-neuralgic properties. In the treatment of hæmorrhoids and other anal lesions its effects are marked when administered in the form of suppositories. As an antiseptic application to wounds and offensive ulcers, it has had some use with good results, the lesions generally healing quickly.

Sulfaminol is a proposed new antiseptic. It is a combination of thiooxydiphenylamin with sulphur, and is said to acquire its antiseptic properties from the separation into sulfur and phenol ensuing on bringing the preparation in touch with secretions of the body. Sulfaminol is a light-yellow, odorless and tasteless powder, readily soluble in alkalies, less so in the carbonic alkalies, but also suspended in alcohol and glacial acetic acid. Kobert states that the substance is not toxic and not locally irritant. It appears that the article owes its introduction only to the craze for enriching the stock of new remedies; it is not likely to prevail long, but seems to have "died aborning."

Under the name "diuretin," a substance for which great diuretic powers are claimed, has been put upon the market in Germany and France, and is stated by its manufacturer to be a "salicylate of theobromine." This is surely a misnomer, as theobromine is not a base and cannot form salts. Aside from this, the claim of its proprietors that diuretin is composed entirely of sodium salicylate and theobromine is scarcely borne out by the experiments of Germain See and others. While admitting the value of the substance as a diuretic, these experimenters declare that it is being put upon the trade, to a certain extent, under false pretenses.

Nut-Cracking Department.

Error in National Dispensatory Formula for Compound Tincture of Cinchona.

We recently noticed an error in the formula for the above preparation, on page 1522 of the National Dispensatory (third edition), whereby *¼-oz. av.*, instead of *½-oz. av.*, is given as the equivalent for "two parts" of Serpentaria.

Many pharmacists who prefer to make their preparations by measure, use these equivalent figures without reference to the formula given in "parts by weight," and are thus liable to employ only one-half the correct amount of ground Serpentaria.

Our readers will do well to make appropriate correction in their Dispensatories while the subject is in mind, and thus avert error.

A Peculiar Error in Dispensing Prescriptions.

Our attention was recently drawn to the case of a clever young dispensing pharmacist who was called upon to "repeat" a prescription, double the quantity originally prepared. After doubling the amount of each ingredient prescribed, he inadvertently doubled the dose also, thus directing that *two* teaspoonsful, instead of one teaspoonful, be taken.

This is an unusual but very natural error, and the point seems worth memorizing.

Non-Explosive Kerosene Oil.

G. C. F.—The substance you inquire about does not render the oil non-explosive at all. Certain sharpers make a practice of going about the country offering for sale a benzin extract of alkanet root, which when added to a goodly amount of kerosene oil, in an open vessel, imparts to it a bright red color. They then light a match and plunge it into the colored oil; the flame is immediately extinguished, and the oil is not ignited. The enterprising agent claims this to be conclusive evidence that the oil has been rendered non-explosive, and the delighted housewife usually buys an ample supply at a good round price.

As a matter of fact, an ignited match can be plunged quickly into any good kerosene oil in an open dish without danger of explosion, and the flame is almost certain to be extinguished.

Cleaning Greasy Mortars.

℞—Reasonably fine pine sawdust is perhaps the cheapest and most efficient agent for cleaning greasy mortars. It is preferable to soap, turpentine or benzine, especially where an ointment is involved. This convenient method is often overlooked by practical pharmacists, and is rarely if ever mentioned in literature.

Short Method for Making Paregoric.

L. G. R.—We mentioned in recent issue a method by which the usual seven days maceration could be avoided by substituting ten parts by weight of official tincture of opium for one part of the drug.

"Fluid Opium Camphorated" as offered by some of our leading manufacturing pharmacists also affords a ready means of preparing Paregoric extemporaneously by simple mixture with prescribed proportions of glycerin and diluted alcohol.

How to Detect Counterfeits.

Will. S.—The following note from *The State Savings* affords the information you desire; "Take a United States bill of any denomination, hold it up to the light and you will see two lines running entirely across it lengthwise; upon examination you will find these consist of silk threads, a red one and a blue one. Every genuine bill has this mark; without these a bill may be put down as a counterfeit, no matter how good the engraving on it. No paper mill dare make that sort of paper, and that is the Government's only protection on its currency."

Errors in National Formulary Formulas.

A correspondent calls attention to an apparent error in the recipe for Elixir of Pepsin and Bismuth in the National Formulary. The directions are to make a solution measuring 13 fluid ounces and add to this 4 fluid ounces of syrup. The context leaves no doubt that the finished preparation is to measure 16 fluid ounces, and unless a condensation occurs which cannot be expected, the amount obtained will be 17 ounces or nearly that quantity.

We would direct the attention of our readers to page *X* of the National Formulary where under *Errata* this error together with several others are pointed out.

It is a safe plan to make appropriate notes or corrections on all formulas mentioned on that page so that errors are apparent at a glance whenever these formulas are employed, as some pharmacists may never have noticed the inaccuracies and those who have might overlook them.

Methyl Violet for Coloring Castor Oil.

F. G.—Methyl violet imparts a purple color to castor oil, although alkanet is usually regarded as the only available substance for coloring oils.

This fact is taken advantage of in the manufacture of certain oil inks.

Putz Pomade.

"Brass."—An excellent substitute for the best commercial brands of Putz Pomade can be made from the following formula—parts by weight:

Oleic acid	1 part.
Powdered emery	1 "
Po. jeweler's rouge	2 parts.
Lard	7 "
Po. rotten stone	4 "
Oil myrbane, to give faint bitter almond odor	q. s.

Error in National Formulary, ℞ 253, for Compound Mixture of Chloral and Potassium Bromide.

"In formula No. 253, N. F., for the above preparation, the directions for compounding say: 'Dissolve the chloral and bromide of potassium in twelve (12) fluid ounces of water.' This should be corrected to read 'enough water to make fourteen (14) fluidounces.' The twelve ounces of water, and four ounces each of chloral and potassium bromide will make in solution more than a pint. The alcohol and tincture of quillaya will bring it to at least eighteen or nineteen ounces. This will reduce the amount of chloral and bromide of potassium to eleven or twelve grains in each fluidrachm, instead of fifteen, as stated."

Pharmacists should correct their copies of the Formulary accordingly.

"CHESTNUTS."

"The man who keeps still when he hasn't anything to say is a public benefactor.

"Never regret what is irretrievably lost."

"Never expose your disappointment to the world."

"Be civil and obliging to all; it costs nothing, and is worth much."

"Always speak well of your friends, but of your enemies speak neither good nor ill."

"Sometimes it is those who have seemed the hardest to gain as friends who afterwards prove the most faithful ones."

"In five minutes a woman can clean up a man's room in such a way that it will take him five weeks to find out where she put things."

"'Well, what luck?' inquired a man of a darkey who was sitting on the bank of a stream and trying to coax the fish to bite, with apparent poor success. 'Oh, can't complain,' was the reply. 'Ain't fell in yit.'"

(Moral—"Always look on the bright sight side of the picture.")

"When you want to test the sobriety of a man ask him to repeat quickly the names of these three States of the Union: Idaho, Iowa, and Ohio."

"Bill Nye says some are bald on the outside of their heads, others on the inside."

"Very few women understand the art of getting off a joke or a street car."

"Consideration is due to all things."

"Affectation is at best a deformity."

"Be slow in choosing a friend; slower in exchanging one."

"In order to judge of another's feelings remember your own."

"None have less praise than those who seek most after it."

"Rage robs a man of his reason and makes him a laughing stock."

"How glad both rich and poor would be,
When frigid are the days,
If the coal man would only see
The error of his weighs!"

"Lightning never strikes twice in the same place." Neither does a mule. The reason for this is because the place is never there after the first strike.

"Just see him swear! See him tear his hair,
And madly prance and caper;
For he pounded out on his writing machine
A nice little rhyme for the magazine,
On babbling brooks and pastures green,
And then leaned back with a smile serene,
To find that he had absent-minded been,
And forgot to put in any paper."

"If you speak the right word at the right time; if you are careful to leave people with a good impression; if you do not trespass upon the rights of others; if you do not put yourself unduly forward; if you do not forget the courtesies which belong to your position,—you are quite sure to accomplish much in life, while others with equal ability fail."

Older pharmacists have observed that "mistakes" in drug stores do not happen when they would seem most likely to occur, that is when we are overburdened during a rush. They happen more frequently when we are working leisurely—probably because a "rush" sets all our faculties at work, and while at leisure we grow less watchful.

Philosophy.

I.

When worries and troubles surround you,
Don't fret.
Go to work!
You will always have trouble around you,—
You bet!—
If you shirk.
The man who is busy his worry forgets,
His mind isn't harassed by thoughts of his debts,
And the harder he works the more happy he gets,
Till he's as gay as a Turk.

II.

If fortune won't smile, let her frown, if
She will.
Never mind!
Don't sulk, and look wholly cast down, if
She still
Seems unkind!
If you smile at her, soon she will smile back at you.
You are certain to win her, if you will pursue
Her with cheerful persistence, and hope ever new,
And then solace you'll find.

III.

The world doesn't care for your woes,
Oh, no!
Not a bit!
The man who is wise never shows
His foe
That he's hit.
Every one of your neighbors has griefs of his own,
He greatly prefers to let your griefs alone,
And he doesn't at all enjoy hearing you groan,
So take warning and quit!

A Christian Science Fad.

"Think health, and health will find you
As certain as the day,
And pain will lag behind you
And lose you on the way."

Why not pursue this line of reasoning to the bitter end—something after this fashion:

Think wealth, and you will get it—
A million more or less;
Think silk, and in the closet
You'll find a gros-grain dress.

Think land when you are drowning,
Beyond all human reach,
And by this happy theory
You'll be washed up on the beach.

Think bread when you are hungry,
And a feast will there be spread;
Think sleep when you are weary,
And you'll find yourself in bed.

If rhyme you think when prosy,
And when you're dull think jokes,
You'll be a poet just like us,
And smart, like other folks.

Correspondence.

LONDON LETTER.

The British Pharmaceutical Conference—The Teaching of Materia Medica in the Society's School—The Early-Closing Question—The Exalgin Controversy.

The next occurrence of special and general interest in the pharmaceutical world is the 27th Annual Meeting of the British Pharmaceutical Conference. This year the first Monday in September is synchronous with the first day, and therefore the Conference will open with the month. It will be remembered that the *locale* of the proceedings this year is Leeds, and the headquarters the Great Northern Railway Hotel. Mr. Mundy will again be President, and the first item in the programme is the reception by him and the officers of the Conference in the Philosophical Hall, where a *conversazione* will be arranged. The real work of the Committee will commence on Tuesday, and the Presidential address will be followed on that and the next day by the reading of papers, and discussions.

It is customary to give the Conference a more or less festive character, so far as time and locality will permit, so that those who attend the meetings may have something more refreshing and delightful to look back upon than the mere reading of papers. The local Committee in Leeds has not been found wanting in this direction; on Tuesday evening there will be a reception by the Principal and Council of Yorkshire College, when pharmacists will have an opportunity of seeing one of the most important of the Provincial foci of education, the institution of which is becoming a feature of the times. Then, after the business on Wednesday, a visit to Roundhay Park is arranged, and Thursday will be altogether devoted to pleasure, the members being conducted to Bolton Abbey and other interesting places. Next month I hope to be able to say something about the papers promised; it is too early yet to obtain any reliable information about their number or character.

An incident which has created considerable interest in inner circles is the resignation by Mr. E. M. Holmes of his position as teacher of Materia Medica in the School of Pharmacy maintained by the Society. Mr. Holmes is well known as the Curator of the Museum of the Pharmaceutical Society, and as one of the first authorities of the day on Materia Medica. In 1888 the session opened, under new arrangements, so far as the School was concerned. Prof. Bentley, after occupying the chair of Botany and Materia Medica for nearly forty years, resigned at the end of the 1887 session, and the Council decided to separate the teaching of the two subjects which he had hitherto conducted in a single class; it was therefore announced that Mr. Holmes would take charge of the demonstrations in Materia Medica, while a separate appointment was made for the Professorship in Botany. Now it appears that Mr. Holmes undertook the work under pressure and with reluctance, fearing that he would be unable to properly discharge the duties of both offices, and experience has apparently justified his apprehension, so that he has felt bound to tender his resignation of the additional and imposed duties. It may be remarked that among those in high places in the Society, a considerable lack of intimate acquaintance with the duties of either a Curator or of a Lecturer on Materia Medica, seems to obtain. To the mental vision of certain persons, a Curator, apparently, is a person who keeps the bottles and cases of a museum in order, stows aways donations, and carries the keys by which access is obtained to the rarer articles; the title, "Lecturer on Materia Medica," means to them nothing more than a person who says to his assembled students: "This, gentlemen, is a piece of opium; if you observe it closely you will note certain characteristics which it is important to remember. Opium is the inspissated juice of the nearly ripe capsules of *Papaver somniferum*," etc. In fact, there seems to be a very general idea that any one can teach Materia Medica by previously reading up the subject in the text-books—than which nothing could be more fallacious. At any rate, it is to be hoped, for the sake of the reputation of the School, that the idea will not be acted upon in Bloomsbury Square.

The question of *early closing* is of perennial and evergreen interest to pharmacists, but naturally it is during the summer that it comes most conspicuously to the fore. With the advent of bright warm days the chemist and his assistant (particularly the latter) look out through the door of the pharmacy with longing eyes, and pause in their work a moment to dream of "spots of sunny greenery," and "places for quiet breathing, 'neath umbrageous trees." The desires of the members of the trade as expressed at present, seem to tend in two directions; in some districts an earlier hour of closing is asked for, while in others the agitation is confined to securing a weekly half-holiday. There can be no doubt that the hours of business in our pharmacies are very trying to the young men; the writer knows many shops where the hours are 8 A. M. to 10 P. M. every day, and an hour longer on Saturday, and it can scarcely be wondered at if under such circumstances life does not wear a very pleasing aspect. The great obstructions to a reduction of the hours are the smaller and poorer men, and those whose interests in life are confined to the shop. The stores have done much in this direction toward improving the condition of the chemists' assistants' life and the exhibition of a little more backbone by pharmacists themselves would do still more. But the process of improvement will probably be slow here as elsewhere.

A controversy has been going on here for many months as to the safety or otherwise of *Exalgin*, and the end is not yet. Further, the greatest diversity of opinion seems to exist as to the correct dosage. Prof. Fraser recommended as an ordinary dose ½–3 grains, while other medical men maintain that under 2 grains no effect is produced by the drug at all. Then again, Dr. Johnston observed symptoms of poisoning with only small doses, and Dr. Semple reports somewhat similarly of a case where 5 grains were given twice a day. The cause of the unpleasant symptoms is variously given as impurity and as administration on an empty stomach. Perhaps both these factors are important in determining the action of the remedy. The melting point of the compound should be 100°–101° C., and it is best given after a meal.

PHARMACEUTICAL NEWS FROM GERMANY.

International Medical Congress—The Annual Meeting of the Apotheker-Verein—The Scientists' Congress—The Pharmacology of Bromoform—Methylphenacetin; a Narcotic—Alkaloidal Ferro-cyanides—Another African Arrow Poison—Benzosol; a Substitute for Guaiacol.

The programme of the Tenth International Medical Congress, to be held at Berlin from the 4th to 9th of August, is just issued. The first impression of the reader is, that instead of five days, as many weeks, nay months, would not be too much for the just consideration of the surprising mass of subjects which is announced in the 62 pages of the programme.

The combined sessions of the Congress will take place in the Circus of Renz, where also the opening proceedings on Monday, the 4th of August, will be carried out. English, German and French are the official languages of the Congress, but short remarks may be made in other tongues, provided some one is present to translate them into one of the official languages.

The first day of the Congress will be devoted to the consideration of bacteria; Sir J. Lister will review "The Present Position of Antiseptic Surgery," and Prof. Koch will give information on bacteriological research. Then there are 18 Sections, for each of which a large number of papers is already promised; the total number of the latter is about 570! Since the list is by no means yet complete, it is evident that the members of the Congress have a busy week before them, and it has been considered necessary to make 20 minutes the maximum limit of time to be occupied by the reading of a communication, while in the discussion no speaker must occupy more than 10 minutes.

Passing by the Sections of Anatomy, Physiology, and Physiological Chemistry, we come in that of General Pathology and Pathological Anatomy to the first papers of interest to pharmacists; one of these is on "Lead Poisoning," and another on the "Properties of Milk taken from Tuberculotic Cows." In the Section of Pharmacology, only seven papers are announced, that dealing with "Salol" being the only one of pharmaceutical interest. In this Section there will also be a discussion on the Pharmacopœias of various countries. The Section of Dermatology and Syphilography will conduct discussions on a number of interesting features in "Medicinal Exanthema," with which a number of well known names are associated. In the same Section a communication is promised on "Aristol," and several dealing with "Leprosy."

Some of the other Sections are concerned with subjects which have also a more or less direct bearing on pharmacy, while for a few, such as that of Forensic Medicine, and of Hygiene, papers are announced of quite general interest.

Following a custom which is fairly established on the Continent, the municipal authorities of Berlin have had a monograph (comprising 350 pages) prepared on the town, copies of which will be presented to the members.

The annual meeting of the German Chemists' Association is announced for the beginning of September and will be held in Rostock. For some years agitation has been rife about the representation of various districts by delegates in voting on the various questions which come up for discussion. This year the plan will be adopted for the first time, including the allowance of certain expenses to the delegates.

The annual Scientists' Congress will be held this year between the 15th and 20th of September, in Bremen. This has grown in importance every year since 1839, when it was first initiated by a meeting of 273 persons in Heidelberg; on the last occasion the old university town was scarcely able to afford accommodation for the numerous visitors who flocked to attend it, and there seems to be every indication that the interest will not be less this year when the Congress is held in Bremen. Several papers are announced to be read in the Section of Pharmacy including one on the "Estimation of Morphine," another on the good old subject of "Test-Insect Powder," while a third will deal with the "Chemistry of the Male Fern Rhizome." The exhibition is always a feature of great interest, and one will be associated with the Congress this year as usual.

Bromoform (a bromine substitution compound analogous to chloroform) is attracting considerable attention in the field of therapeutics, and seems to have come to stay. It is specially used in whooping-cough, and amid the flood of remedies which during the last few years have been brought forward, appears to be one of the most valuable. It was first recommended by Stepp, in 1889, who believed that it not only lessened the severity of the attacks of coughing, but arrested the course of the disease. Dr. Neumann, since the beginning of 1889, has treated 61 cases of whooping-cough, partly with Bromoform, and partly with other remedies such as analgesin, phenacetin, tannate of quinine, resorcin, morphine, insufflation of benzoin, etc. Summing up his results he states that the remedy favorably influences the attack of coughing and is worthy of a trial on account of its pleasant taste and harmlessness. From 100 cases treated with Bromform, Löwenthal concludes that the effect of the remedy is more encouraging than that of any of the other substances recently recommended. The dosage is up to 5 drops three or four times a day (for 8 years). Pharmacists may be glad to be reminded that Bromoform is specifically a very heavy liquid (s. g. 2.8) only slightly soluble in water (about 6 drops in 4 fl. ozs.). It is conveniently given dropped on sugar.

Although just now new remedies are not so abundant as sometimes, yet we are not entirely without them. *Methylphenacetin* is described as *oxy-ethyl-acetanilid*, "methylated" in the amide group. According to the patent specifications, it is prepared by dissolving para-acetphenetidin (phenacetin) in xylol, and adding a molecular proportion of sodium to the boiling solution. Hydrogen is eliminated, and sodium phenacetin formed; the latter is decomposed with iodide of methyl, methyl-phenacetin and iodide of sodium being produced. The inorganic salt is filtered out, the xylol distilled off on a water bath, and the residual oil distilled between 295° and 303° C.; the new compound passes over as a colorless oil, which solidifies on cooling. An oily by-product which adheres to the crystals, is separated either by spreading them on porous clay bricks or by pressure, and the final purification is effected by re-crystallization from ether and alcohol. The product is colorless, fairly soluble in water, and easily so in ethereal solvents. In even small doses it is narcotic, and seems to be stronger in therapeutical action than the corresponding ethyl compound.

The Ferro-cyanides of the Alkaloids have been intimately studied by Dr. H. Beckurts, a well known professor of pharmacy. The interest of these compounds lies in the fact that they are mostly more or less insoluble, and that it has been found to be convenient and advantageous to quantitatively estimate strychnine in the presence of brucine, as a ferrocyanide, (*Archiv. d. Pharm.*). *Acid Ferrocyanide of Atropine* is amorphous, soluble in water and potassic ferrocyanide solution, insoluble in alcohol and in ether. The *Quinine* salt is greenish, amorphous, and as regards solubility analogous to the above; that of *Cocaine* is white, amorphous, easily soluble in an excess of potassic-ferrocyanide solution, with difficulty in water, and insoluble in alcohol and ether. And *Ferrocyanide of Morphine* acquires a bluish tint after exposure to the air; it is a crystalline substance, easily soluble in water. The *Narceïne* compound only differs in being with difficulty soluble, while that of *Narcotine* is very bulky and readily soluble in water.

Interesting details are given by R. Boehm, of the Pharmacological Institute in Leipzig University, about the physiological action of *Echujin*, a glucoside obtained from an African arrow poison, which appears to be derived from *Adenium Bohemianum*, of the Apocyanaceæ. The formula of the glucoside is the same as that of digitalin, but the action more nearly resembles that of öuabaine and strophanthine—gradually increasing dyspnœa and violent general convulsions usher in death when a poisonous dose is given.

Another recently introduced compound, which the pharmacist will possibly have sooner or later to make the acquaintance of, is *Benzosol.* Chemically this substance may be described as benzoyl-guaicol, since it consists of guaicol $C_6H_4.O.CH_3OH$, in which the hydrogen atom of the hydroxyl group is displaced by benzoyl, COC_6H_5, so that the chemical formula is: $C_{14}H_{12}O_3$. Physically it is (when pure) a colorless crystalline powder, melting at 50° C., free from odor and taste. Therapeutically it is introduced as a substitute for guaicol, which in its turn was recommended as a substitute for creasote in the treatment of phthisis. Benzosol has already been successfully given in ten cases by Dr. Walzer, of Aix, and further trials are being conducted. The substance is first given in doses of 4 grains three times a day, and the quantity given for a dose is gradually increased, similarly to that of creasote and guaicol in the so-called "intensive treatment of phthisis."

NEW YORK LETTER.

AUGUST 25th, 1890.

As reported in my last letter, the general tendency of the market throughout the month was downward, and there have been but very few fluctuations during July.

Quinine has been in active demand for the past week, and the market has advanced perhaps two cents per ounce, but contracts for large amounts would not be accepted at this figure.

Opium still remains unchanged, with very limited demand. But morphine is in active demand, and contracts for large amounts are now being filled, and there is every reason to believe that before this month closes much higher prices will be realized.

Jalap is firm, and holders are scarce, there being none in first hand at present. Prime root is being held at high rates.

Cream Tartar.—As predicted in my last letter, this article is looking downward. The demand is active, and prices have reached one-half cent below that of last month.

Balsam Tolu has also declined in value; the demand is exceedingly limited, and stock in first hands plentiful.

Balsam Peru.—Prices have advanced 5 per cent. The demand is slight and held according to quantity at the advanced rate.

Balsam Copaiba is quiet and firm at 54 to 60 cents, as to quality.

Sugar of Milk is very active and has been so for some time, but stocks are unusually scarce and firmly held.

Cannabis Indica is reported as having advanced abroad, and holders of this article here, of which there are very few, ask higher prices. The demand is quite active.

Colchicum Seed.—The market shows an upward tendency; stock is limited, though, and firmly held at the existing rates.

Scammony is quiet and unchanged. There is a limited stock here in first hands, and in second hands those holding it are anxious to sell in anticipation of a new crop.

Menthol remains unchanged, but we have advices from abroad that the failure of the crop will tend to advance the price.

Gum Camphor.—Quiet; prices steady; we quote 46 cents in cases.

Oil Peppermint still remains firm, and has a good demand at high prices.

Citric Acid, to the surprise of the trade, seems to be weakening rather than strengthening in value.

Insect Powder.—We are advised that the crop of flowers in Dalmatia is very abundant—largely in excess of that of former years.

REPORT OF THE COMMITTEE ON ADULTERATION OF THE WISCONSIN PHARMACEUTICAL ASSOCIATION.

The following is a copy of the report to the Wisconsin Pharmaceutical Association, by F. B. Power, chairman of the committee:

"Although the committee on adulterations appointed at the last meeting of the Association was an exceptionally large one, no reports have been received from the members, and the duties of the chairman, who was again appointed to this position contrary to his expectations and desires, have prevented his undertaking an extended correspondence for the purpose of soliciting contributions to this report.

"One important medicinal agent has, however, been brought to the writer's notice through the watchfulness of our worthy President, Mr. Edwards, of Portage, which seems to present an example of such gross fraud and misrepresentation that it should receive the serious consideration of the members of this Association.

"The article in question consists of quinine capsules, manufactured by the Merz Capsule Company of Detroit, Mich. These capsules, according to the label on the package, are represented to contain 3 grains of sulphate of quinine and ⅓ grain of capsicum.

"Mr. Edwards having already found these capsules very deficient in weight, an original and unbroken package was sent to me for examination. The package, which is a shallow tin box, contained exactly 100 capsules, and upon weighing the entire number, the average weight of each capsule, including the gelatin, was but 2.48 grains. Five of the capsules were then opened, and the contents weighed, which amounted to 0.79 grain. If we were to subtract from this the amount of capsicum which the capsules are represented to contain, or ⅓ grain, the amount of sulphate of quinine would be reduced to 0.46 grain instead of 3 grains. It has been shown, however, by Dr. V C. Vaughan, of the University of Michigan, in an article published in the "*Medical News*," of May 8th, 1890, which has just come to my notice, that these capsules are not only short in weight, but that in two boxes examined by him "not the smallest trace of capsicum could be found."

"Whether the notable deficiency in weight in this case be due to intentional fraud or to carelessness, the deception produced is equally great and criminal, and must justly call forth the severest censure.

"No better example could indeed be afforded of the disadvantages liable to accrue to both physician and pharmacist, to say nothing of the patient, who is most vitally concerned of all, from the prevailing fashion of supplying important medicaments in factory-made combinations and forms of dosage. If the pharmacist is not himself capable of filling gelatin capsules with a mixture of quinine and capsicum, or if the physician will obstinately persist in the indiscriminate use of important remedials in the form here referred to, the situation is, indeed, a deplorable one. If such preparations must be employed, the importance of exercising a rigid control over their quality and purity is sufficiently apparent.

"In concluding this brief report the writer would respectfully solicit the earnest consideration of the subject embodied in the circular letter recently addressed to the members of the Association, which represents the outlines of a plan for securing a more systematic and efficient control of the quality and purity of all articles designed for use as medicinal agents or as food."*

HOW TO CLEAN HYPODERMIC SYRINGES.

Syringes, whose canals have become obstructed, so that a fine wire cannot be drawn through, are cleaned by holding them for a moment over a flame. The foreign substance is thus quickly destroyed and driven off. If a wire has been rusted into the needle it should be dipped in oil before holding over the flame. To remove the rust from the interior of the canula it is well to pass oil through the canula, then heating it; then rinse it out with alcohol.

---

* In the report of the committee there is omitted the important suggestion that adulterated products need not be dispensed by pharmacists or prescribed by physicians, if they specify in their orders and prescriptions what they have tested and found to be a pure and full weight product. It should be no reflection on the reputable manufacturing pharmacist, or argument against the use of this means of medication, that there are careless or criminal manufacturers who have no scruples over resorting to misrepresentation and deceit.—ED.

Facetiæ.

THE LADY CHEMIST. (By an Early Victim.—)

At bars I often lounged of yore,
Indulging in flirtation
With Hebes whom I used to bore
With vapid conversation.

But now to higher spheres I rise,
For I've discovered lately
A Lady Chemist with blue eyes
And figure tall and stately.

No "B.'s and S.'s" wet my lip,
Whose frequent sequel *is* "hic:"
For me the alcoholic "nip"
Has not the charms of physic.

Behind the counter—rampart cold—
She stands, and with emotion
I take from fingers trim of mold
The bolus or the potion.

From day to day, come draught, come pill,
In medicines I wallow;
'Tis hers to mingle drugs with skill,
And then it's mine to swallow.

As yet her name I do not know,
So give the name I "canna;"
Perhaps suggests my friends—how low!—
It's ipecacu-Anna.

I mean to "pop" when words come pat,
Since Fate may not be fenced with,
And tell the fair Dispenser that
A "No" were best dispensed with!

—*Funny Folks.*

THE SURGEONS' BILL OF FARE.—At a recent dinner of the Royal College of Surgeons in Ireland the following cunningly devised *menu* was provided:

Ye Guide to ye Dyverse Dishes atte ye Feste of ye President, ye Council, ye Examiners, ye Professors, and ye Fellows of ye Royale College of Chyrurgeons of Ireland.

Ye i June, MDCCCLXXXIX.

YE PROLOGUE.

Thys lytyl Traytee, connyngly made, translated and drawen out into ryght goode and fair Englysshe, ben a Guyde to ye dyverse Dishes to be served by Master Murphyee, ye famous provider of dinners, on ye i daye of June, in ye Hall, yclept Albert Hall, in ye College in ye St. Stephen's green, in ye Island of Erin, on ye occasion of ye feste of ye President, Council, Examinors, and Fellows of ye Royal College of Chyrurgeons.

Ye Ordere of ye Dishes.

TO the entente to prouffyte dygestion, ye Guestes will first have sette in mannere afore them some Soupe, ye Turtle with ye fatte, and also that of Cleare kynde without ye fatte.

AND as for moche that is accordante, there shall follow Fyshes of Dyverse kinds, including Turbotes with Sauce of Lobsteres attendyng, and then that dysh for whyche Master Murphyee is much renowned, to wit, Cotelottes of Salmon, dressed as in the manner of India.

AFTER whyche shall be served in due course ye Dayntes styled Sweetbreads, whyche shall be accompanyed with Musheroomes and Swyne Nuts, and alsoe Cotelottes of Lambs, with garnysh of Vegetables.

Then shall follow ye young Chyckens of ye Sprynge, that shall be boyled and spredde with Sauces of Swyne Nuts, lykewise ye Young of ye Ducke with lyttle Peas, alsoe Potatoes whyche have been dug from ye ground for ye feste, and also Hyppe of Sheep that shall be connyngly roasted, so that ye outside shall be browne, ye ynside shall be stylle a lytyl rede.

YE dyshes next to followe wyll be ye toothsomme bestes of ye Sea, yclept Lobsteres, hotte and well spiced.

OF Sweete Things there shall be found ye Charlotte Russe, Caykes with Candyed Fruytes, Jellies flavored with Wyne and Maraschino, and that whyche hath been styled by them of France 'Pouding de Glaces a la Souiesse.'

AND, lastly, ye Dessyrte and ye frozen Curds.

FOR ye to better satisfy ye thirst and to make ye dinner agree better with ye stomach, there shall comme at dyverse times—

Ye Turtle Punch.
Ye Xeres from Amontillado.
Ye Rudesheimer, which was made in Reinland.
Ye Champagne, brewd by them styled in France Ruinart Pere et Fils.
And ye Claret, whyche ye will find very good.
Also Liqueures of many kinds.
Ye infusion of Bohea and Koffee.

—*Amer. Druggist,* May, 1890.

THE CLEANLY DRUMMER.—A young man who travels for a New York Bible concern was at the Boody House yesterday, and along in the afternoon, following the promptings, or rather the wooings of the spirit, started back to the bar for a drink. He had just reached the door when he was startled by an apparation in the sombre-clothed person of his employer, who had stopped over a day on a flying trip to Chicago, where Bible houses find a large and attractive field.

Seeing the employer, the young man unconcernedly walked on into the wash-room and began to lave his hands. The employer carelessly sauntered down the long corridor, round through the billiard hall, and just as he entered the bar again encountered his travelling employé, who, bowing politely, walked on into the billiard hall and became absorbed in watching a game of billiards. But he kept an eye on his employer, and when he disappeared, returned to the bar after the coveted drink.

Again he ran into the old man and proceeded on into the wash-room, where he again bathed his hands. The employer then took a turn watching the spinning ivory globes. Anon, the young man made another effort. The employer was again encountered. Then they changed places once more, the young man watching the billiards and the old one washing his hands.

The drummer then conceived and executed a *coup d'etat*, or something of that sort. He called for his coat at the coat-room, and told the old man as they again passed in the bar that he guessed he'd go oût and call on a minister whom he was working up into a Bible-buying mood.

Then he walked slowly around, came through the billiard hall, and once more went into the bar.

"Well," he said, smiling pleasantly, as he encountered his employer again, "forgot to wash my hands." Then he stole into the wash-room, peeped around the corner of the wall until he saw the old man disappear, then he hastened back to the bar. The same inspiration had fired the old man, and they collided once more. Then they had to wash again.

By this time their hands were white and soft, and their fingers beginning to shrivel up like a Canton ave. washer-woman. Both were growing desperate; and the old man said in a careless, off-hand manner:

"Oh, by the way, Phillup, do you ever drink a little glass of beer?"

Phillup said, "Well, once in a great while."

Then a great feeling of relief filled them. Distrust was metamorphosed into perfect trust and sweet confidence, and the dark despair of the hope that was dying in each longing breast suddenly brightened into the glad, joyous, sparkling sunshine of expectations all fulfilled and hopes fully realized.—*Toledo Blade.*

BOILS (A BOY'S COMPOSITION).—A boil is generally very small at first, and a fellow hardly notices it, but in a few days it gets to be the biggest of the two, and the chap that has it is of very little account in comparison with his boil, which then "has him." Boils appear mysteriously upon various portions of the human body, coming when and where "they darn please," and often in very inconvenient places. Sometimes a solitary boil is the sum total of the affliction, but frequently there is a "rubbish-in lot of 'em" to help the first one. If a boil comes anywhere on a person, that person always wishes it had come somewhere else, although it would puzzle him to say just where.

Some persons call them "Damboils," but such persons are addicted to profanity—the proper name is boil. If a chap has a boil he generally gets a good deal of sympathy from others—"in a horn." Whoever asks him what ails him laughs at him for his pains to answer, while many unfeeling persons make game of him or of his misfortune or boil. It is very wicked to make sport of persons with boils; they cannot help it, and often feel very bad about it.

Physicians don't give a boil patient much satisfaction as a general thing, although young physicians who are just beginning to practice are fond of trying their lancets on them.

Boils are said to be "healthy," and judging from the way they take hold and hang on and ache and grow and burn and raise Cain generally, there is no doubt that they are healthy, and have good constitutions.

They are generally very lively and playful at night, and it is very funny to see a chap with a large one prospecting around his couch, for a place where his boil will fit in "without hurting it."—*Exchange.*

Abstracts and Translations.

Cassava.

Botanists recognize many species of the Manihot—the true name of the cassava plant—but of these only two are cultivated, namely, the ***M. utilissima***, or poisonous kind, and the ***M. Aipi***, or sweet. Both have nearly the same chemical composition, but the former is deemed the more productive, and is, therefore, that planted most in South America, where cassava bread is the chief food of the people. The sweet species only is cultivated in Florida, and is well adapted to feeding horned cattle, swine, fowls, and horses, and making tapioca, cassava, and flour. It may be as well to add here that the name cassava should only be applied to the purified starch obtained from the roots of the plant known as mandioc, *Janipha manihot*, *Jatropha manihot*, *M. Aipi*, and other names.

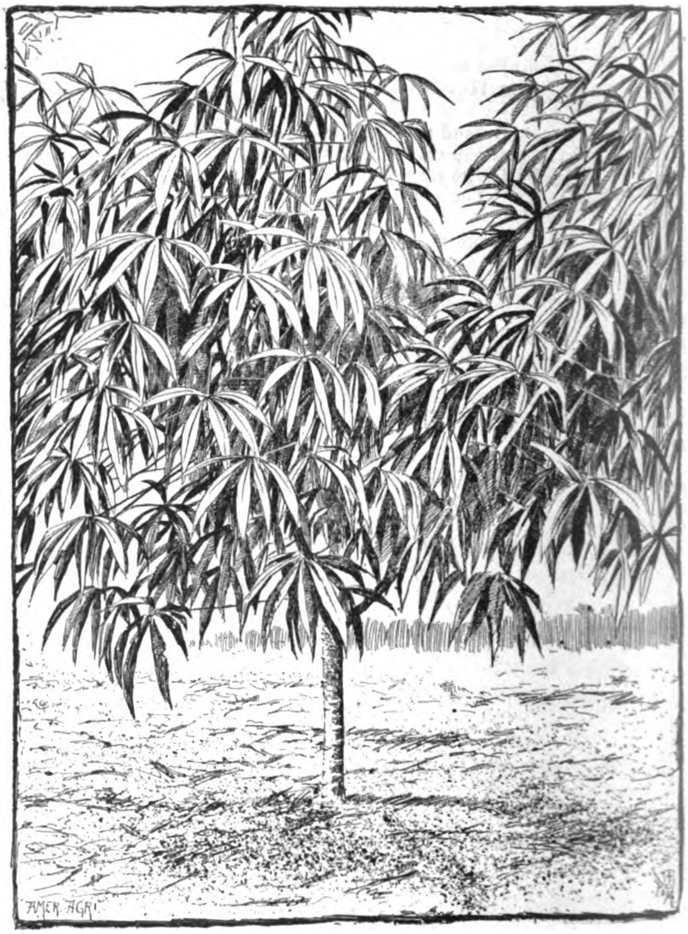


FIG. 1.—CASSAVA PLANT.

The fleshy root yields not only cassava and tapioca, but is the basis of several fermented liquors. The leaves are also boiled and eaten in South America, where the manihot occupies about the same position that wheat does here. The plant is somewhat similar in appearance to the castor-oil plant. The stem is smooth, woody, and bears leaves on the extreme tips. The stalk varies from three to six or more feet in height, according to the richness of the soil. One of the most marked characteristics of Manihot is the large quantity of materials it contains which are soluble in alcohol. It yields a starch equal to the best corn, pound for pound.

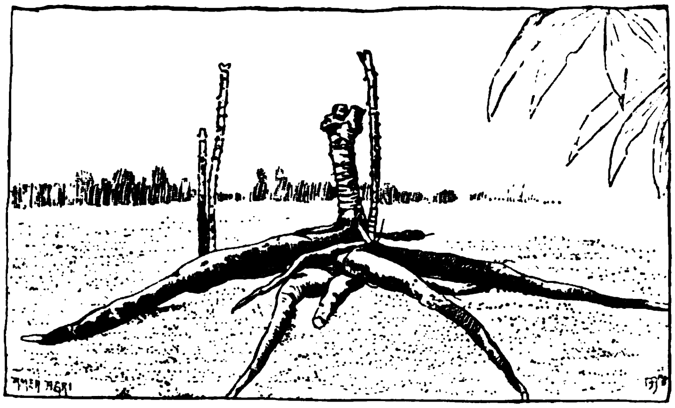


FIG. 2.—CLUMP OF CASSAVA ROOTS.

Being exceedingly rich in carbonaceous matter, chemists claim that it could be more profitably employed for manufacturing glucose than starch. Some persons say the boiled root is equal to potatoes, but I could never be induced to think so, it being too fibery, dry and "choky" to make it pleasant to my palate. It is well adapted to feeding and fattening domestic animals, however, as some of them devour it greedily, and never seem to weary of it. The root is very productive, yielding from 1,500 to 2,000 bushels per acre, and supplying as much food as six acres of wheat. Bahamians live largely on Manihot flour, it being the chief food of the farming class. To make it into flour, the root is first peeled, chopped into thin slices, dried in the sun, then pulverized.

Floridians get both starch and flour out of it. They leave the root in the ground until it is required, then dig and wash it, remove the peelings, grate the inner part, and wash the pulp. The water is next poured into another vessel and allowed to stand until the pure starch settles to the bottom. This water is again drawn off, and the starch allowed to dry and bleach. The washed pulp may be made into puddings immediately, or dried in the sun and turned into flour, which keeps fresh and sweet for a long time. This can never replace our cereals, however, owing to the small amount of nitrogenous matter it contains, that being only 1.31 per cent.

Tapioca is the product of the poisonous species. The juice of that plant, when permitted to settle, deposits the starch known as the Brazilian arrow-root, and from this the tapioca is made by torrefying the starch on hot plates until the grains swell, burst, and agglutinate. A sauce called *cassareep*, and an intoxicating beverage known as *piwarrie*, are also products of the cassava root, so it is quite evident that the plant has excellent qualities enough to make it worth cultivating. [Fig. 1 shows a growing plant, and Fig. 2 a clump of roots exhibited at the semi-tropical exhibition at Ocala, Florida. The largest root of the clump was four feet long.]—J. M. Murphy, in the *American Agriculturist.*

MANIOC, OR CASSAVA.

From the brief allusions to this substance by writers on Materia Medica, one would get but a slight idea of its importance as an article of diet in tropical countries, being the staple food for unnumbered millions of human beings—the staff of life in the West Indies, Brazil and on the Continent of Africa.

The plant from which this food is derived is known to botanists as *Janipha Manihot*, and is a shrub, six to twelve feet high, and one or two inches in diameter. Except for the young leaves, which are used as greens, its whole value consists in its tuberous roots, which sometimes reach the enormous weight of thirty pounds, but usually range from one to three inches in diameter and from six to eighteen inches in length. The shrub is said to be a native of Brazil, where it is known as Mandioca or tapioca. Cassada (or cassava) is its name in the West Indies. It is not grown from the seeds, but from cuttings, having surprising vitality; for a cane of it, like Aaron's rod, will bud and grow leaves in your hand. Hence, it is only necessary to cut the stick into pieces of six to twelve inches in length, and thrust them into the ground, and it matters little whether the ground has been first broken for it or not. In eight to eighteen months the tubers are in their best state to produce the nutritious food—seventy per cent. gluten and thirty of starch; but, at a later period, the gluten becomes less and the starch increases. There is no food product which compares with it in resisting drought. Even in the dryest seasons, it is like other trees "planted by the rivers of water," and whole fields are green with its foliage, while all else is brown with the scorching sun.

There are two varieties of the Manioc, known as the sweet and the bitter; the first of which may be eaten with impunity, while the latter has a bitterish, milky juice, which is poisonous from containing Prussic acid. But these roots are grated or otherwise reduced to a pomace, and then suspended in grass bags, when the poisonous juice drips out, or, being volatile, is dissipated by the heat in baking bread from it. The bitter variety is the principal kind used in British Guiana, while the sweet is the one mostly cultivated in Africa. The tapioca which comes into our houses is almost pure starch, and is made from the expressed juice of the root, which, on standing, deposits in the form of powder, and which, if dried without heat, will remain so. If heat be applied, it takes the form of the irregular masses we are accustomed to see.

The root has the taste of chestnuts, and may be eaten raw. It is delicious, when roasted in hot embers or broiled. If soaked till the skin can be drawn off and the fibrous heart drawn out and then dried, it makes good bread; or, if broken up and fried in palm oil and salted, it is a good relish, and the Africans call it *bomba*.

An extremely white and fine flour, called *fuba*, is made from the soaked and dried roots, and it is the chief food in Angola.

The flour makes a thick porridge or mush—*funje*. The water is boiled and salted and set off the fire; after which *fuba* is stirred in until it can be cut into blocks, which may be taken in the hands and eaten with molasses or dipped into chicken broth.

The staff of life on the Congo is *quanga*, or bread made from the Manioc by soaking, peeling and pounding the soaked root into a pomace, and kneading and making into dough-loaves of four by six or ten inches. These loaves are wrapped in thin, tough leaves and bound, and then boiled in large earthen pots. Then the bread is ready for use; or it may be sliced and browned or broiled, as one prefers.

Farina from the Manioc is prepared by grating the green root, drying in the sun, with all the starch and tapioca in it, browning it slowly over the fire; after which it is eaten by stirring it into soup or boiled beans.

Grate, strain and dry slowly in the sun, and you have a starch for puddings or any other purpose for which starch has a demand in the market. Gluten being a nerve-food, indispensible to health and vigor of both body and mind, the great abundance of it in the cassada—nearly three times as much as in wheat flour—is pre-eminently "the staff of life," since there is no way by which its abundance of gluten can be wasted in preparation, as in wheat. There is a Providence here which shapes ends, since this chief food for tropical regions has so much nerve-supplying elements and so little of the heating elements, as compared with food in colder climates.

But this abundant gluten, as compared with other foods for the sick, pre-eminently fits it for the sick-room, and especially so when we wish to increase strength instead of heat, and where any irritating and indigestible food-substances are forbidden. It requires longer boiling than starchy foods in general, and may be used in the form of thin mucilage or demulcent, or in a more solid form with sugar, lemon juice, nutmeg or other aromatics. I suspect that, as physicians, we should make immense gain in restoring from prostrating sickness by using more of this eligible substance in place of so much meat slops, and especially so in cases complicated with more or less gastric irritation. Meat foods must be excluded from the stomach in gastric ulcer. Why not, then, fall back upon this highly nitrogenous food for supporting the strength? Having so large a proportion of gluten over the starch, it offers immense advantages over wheaten and other bread in cases of diabetes where any starch at all is allowable —E. Chenery, M. D., in *The Times and Register.*

African Insect Wax.

The production of insect wax in some countries forms an important branch of commerce, notably in China, where upon the branches of *Fraxinus Chinensis* and an allied plant, *Ligustrum lucidum*, wax is produced in very great abundance, to such an extent, indeed, as often to completely cover the branches with a thick incrustation. The insect which causes this deposit is the *Coccus Pela.* The wax, which when fresh is almost as white as snow, and easily scraped from the branches, is cleared of all impurities by melting and straining, and is employed for making candles, which are used for funerals and for festive occasions, such as wedding ceremonies, etc. Here, then, is a well-known commercial commodity amongst the Chinese, the origin of which is partly vegetable and partly animal. Similar substances occur in other countries, which, if more attention were given to them, might perhaps be utilized. Even the dreaded "Australian bug," or, as it is now known, the "fluted-scale insect" (*Icerya Purchasi*), which has become such a pest of late years to many useful plants in New Zealand, California, and South Africa, might perhads be turned to some profitable account, and the creature would thus cease to be the pest which it is now considered. In some parts of the Cape Colony the orange culture has suffered severely from the attacks of these insects, while a similar misfortune has befallen those in New Zealand and California. But the insect is not at all particular in the choice of plants upon which to make its home, besides which it is extremely prolific, and, added to this, it is said that its abundant waxy excretions protect it from the action of insecticides. That this waxy substance is abundant is readily seen by placing one of the insects on a piece of glass and heating it over a lamp, when nearly the whole of it melts away.

These thoughts of the more general utilization of wax- or fat-producing insects are brought to mind from the fact of a peculiar kind of wax having been shown to me by a member of the staff of the *Chemist and Druggist*, who had recently received it from a friend in South Africa who had found it in Demara Land, where he described it as being used by the natives as a cement for calabashes (water-vessels, etc.). To prepare it, he says it is exposed to the sun to partially melt or soften, when it is used to fill up cracks—apparently like putty—and as it hardens it forms an almost unbreakable cement. This peculiar substance is the product of an insect, and, though apparently common in Africa, is comparatively unknown out of that country. In the Kew Museums are samples of this wax, both in the natural state, and melted and formed into balls; in the former condition it occurs in small irregular pieces, usually about the size of a pea, but sometimes in large agglomerated masses, composed of a number of such pieces. Some, however, are of a lengthened vermicular form, incrusting the spiny twigs of the mimosa upon which it has been formed. Many of these fragments have much the appearance of a caterpillar, and the whole of them are of a dirty white color.

One sample in the museum at Kew is labelled "Gian," or insect wax, from Natal; while another specimen is said to be from a species of mimosa, though the wax is by no means confined to this genus of plants, being found on a number of other trees. It is said to be well known all over South Africa, and to be met with in considerable quantities in Natal. It is the staple article used by the Zulu warriors for the making of head-rings, and it takes a very fine polish. It is stated that in passing along a road it is quite a usual sight to meet with two or more ring-men sitting by the side of the road giving each other a friendly touch or polish before entering a town, village, or kraal, much the same as we should employ a shoe-black.

As it is stated that any quantity of the wax is procurable in Natal, it would be quite worth the while of some manufacturer to test its capabilities, when we might also hope to discover the insect which causes it.—J. R. Jackson, in the *Chemist and Druggist.*

Pharmaceutical Progress.

Lanolin Milk.—This milk, produced by the trituration of 1.0 borax with 10.0 lanolin, gradually adding 100.0 orange blossom water, yields a good remedy for the care of the skin, which it keeps soft and pliant; is readily absorbed by the latter, and may be long stored in the form of emulsion.—*Deutsche Medizinal-Zeitung.*

Vaselin Pomade with Medicinal Extracts.—M. Pepy, pharmacist, of Cambrai, communicates the following plan of preparing pomades of the medicinal extracts. He takes extract of rhatany as an example:

Any desirable quantity of the extract is placed in a capsule, and just enough water added to soften the same to the consistency of a pomade. Cover the whole with vaselin, and heat until the latter becomes limpid, withdraw from the fire, let cool for an instant, and then mix by stirring with the spatula until the mass becomes homogeneous.

By this method the formation of a pellicle is avoided, and the entire operation simplified and facilitated. Any pomade may thus be prepared, and lard or petrolatum may be used instead of vaselin.—*National Druggist*, July 15th, 1890.

Determination of Lupulin in Hops.—A portion of the hops (not weighed) is sifted by Haberlandt's process, and any grains which pass through the sieve removed with forceps. The lupulin is then weighed, shaken, and washed with chloroform into a dry filter, in which it is then wrapped and extracted with chloroform for about an hour. When dry, it is removed from the filter-paper to the weighing glass previously used, and weighed. The amount of lupulin husks is thus determined, and that of the lupulin found by subtracting this amount from the original weight.

A second weighed portion of the hops is then extracted with chloroform in a Soxhlet's apparatus, shaken on a sieve, the pieces of leaf removed with forceps, and the lupulin brushed through. The sifted portion is again sifted to obtain it free from grains. The pure lupulin husks are now weighed, and from the numbers, with the help of those previously obtained, the original weight of lupulin is calculated. The method gives much more concordant results than that originally employed by Haberlandt, and gives a better insight into the composition of hops than was previously possible. Examples of analyses are given which support this statement.—F. Reinitzer, in *Amer. Jour. of Pharmacy*, July, 1890.

Safety Bottles.—Valuable lives are frequently lost through taking in mistake various poisonous substances and mixtures intended for the most part for external use, or disinfecting purposes. A variety of contrivances have been devised, many of which have been patented, with the object of diminishing this great risk and evil. Of these contrivances nearly the only ones in use have reference to the shape and color of the bottles employed, but these very simple means have not proved sufficiently effectual. I have given much attention to this subject, and have succeeded in devising a bottle which will, I believe, secure absolute safety. In the medicine, and indeed all other bottles now in use, the neck is placed at the top of the bottle in the centre, and is perforated for the cork or stopper. In my bottle this neck is closed altogether, and the cork or stopper is replaced by a glass bulb or brush. The true neck I place high up at the side of the bottle, but at a lower level than the original, but now superseded or false, neck.

My safety bottle is two-necked. Now, it is evident that such an arrangement must afford absolute security; no person seeing such a bottle, or even feeling it in the dark, could for a moment fail to distinguish it from an ordinary and non-safety bottle; and thus such lamentable accidents as now too frequently occur would be prevented and rendered almost impossible under any likely circumstances.

My two-necked bottle admits of some modifications, which I will now notice. In one of these the fixed knob is hollow and furnished with an aperture at the top; the knob is coated in the interior with some luminous paint, so as to render it, as has been before suggested, luminous at night. This proceeding is, however, unnecessary, and if adopted the luminosity would, I believe, not be lasting and effective. The double neck affords, in fact, all the security requisite. Another modification more ingenious than necessary is the following: The central or false neck, as I term it, being closed, so that there is no connection between it and the interior of the bottle, the neck itself is somewhat enlarged, so as to be capable of receiving a small bell attached to a watch spring and cork; on the removal of the cork the bell rings and an alarm is given.—A. H. Hassall in *British Medical Journal* June 14th, 1890.

The Testing of Insect-Powder.—Dr. H. Thoms, of the laboratory of J. D. Reidel's chemical works in Berlin, contributes to the *Pharmaceutische Zeitung* an interesting note on the falsification of insect-powder. According to the writer, the consumption of flower-stalks and so-called "false flowers" for the preparation of insect-powder equals, if it does not exceed, the quantity of genuine flowers employed for that purpose. According to reliable statistics, there were sold on the Trieste market in January last, 84 tons of genuine flowers, 60 tons of stalks, and 22½ tons of so-called "false flowers." The latter are quoted regularly in certain price-lists at about 20*s.* per cwt., and an exportation of "flower-stalks" from the Dalmatian ports is so large that whole shiploads are sent out at the time. It should be added that, according to another authority quoted by the *Pharmaceutische Zeitung*, these stalks are exported from Trieste not so much for the purpose of being ground abroad and mixed with the genuine flowers as for the specific use, in the form of a coarse powder, by skin and fur dealers. Some time ago a sample of "false flowers" was identified by the firm of Cæsar & Loretz, wholesale druggists, of Halle-on-the-Saale, in Germany, as belonging to *Chrysanthemum leucanthemum;* but Dr. Thoms now refers to a specimen obtained by him from

Trieste, which is believed to belong to *Pyrethrum Indicum*. The whole flowers of Messrs. Cæsar & Loretz's sample, when tested, were found to leave 8.03 per cent., and the powder yielded 10.106 per cent., of ash, containing a small proportion of manganese. Dried at a temperature of 100°, the sample lost 10.85 per cent. of moisture, the total percentage of ash in the dehydrated sample being therefore equal to 11.38. Dr. Thoms's *Pyrethrum Indicum* flowers, tested in the same way, yielded respectively 9.08 and 9.79 per cent. of manganous ash, and lost 7.76 per cent. of moisture by drying at 190°. It should be added that the flowers were fully developed ones, which yield a smaller percentage of ash than closed flowers. Previous tests of water-free samples of undoubtedly genuine whole flowers of *Chrysanthemum cinerariæfolium* had yielded an average of 6.93 per cent., and ditto powdered flowers of 6.944 per cent. of ash. Dr. Thoms, although admitting that a sample of insect-flowers which leaves over 8 per cent. of ash is suspect, is careful to add that not too much importance should be attached to such a test only. The chemical composition of the ash must also be taken into account, in proof of which he mentions a sample of insect-flowers of splendid appearance, which were offered to his firm by a Trieste house at the rate of only 7*d.* per lb. The water-free samples of these flowers yielded only from 6.84 to 6.94 per cent. of manganous ash, which also showed a slight proportion of chromate of lead. The sample did not possess the characteristic flavor of insect-flowers, and was quite devoid of insect-killing power. Not even all genuine flowers yield an effective powder; in those which have been gathered too early the aroma has not been fully developed, and in flowers which are too old the aromatic principle is lost.—*Chemist and Druggist*, April 26th, 1890.

NOTE OF AN OFFICIAL TEST FOR PHYSOSTIGMINE.—Whilst working recently through the tests of the Pharmacopœial alkaloids, all were found to conform readily to the various requirements mentioned in that work, with the one exception of physostigmine. The Pharmacopœia in reference to this alkaloid reads thus:—"The aqueous solution has an alkaline reaction; when warmed, or when shaken, with a dilute solution of potash, it becomes red; and when evaporated to dryness over a waterbath leaves a bluish residue, the acidified solution of which is beautifully dichoric, being blue and red."

The first and second tests were found perfectly satisfactory, but the last was quite the reverse. The aqueous solution neither left a bluish residue nor was its acidified solution in the slightest degree dichoric.

Being dissatisfied with the result of the test, I sought to ascertain the reason of its failure. The first thing that suggested itself was whether the Pharmacopœial statement might not be considered a little ambiguous, and whether it was not "the solution after shaking with potash" that should give a bluish residue. But in this case the residue was of a dirty brown color and its acidified solution not in the least dichoric.

The only other possible source of error, if the text of the test were correct, was the sample of physostigmine (of German manufacture) which I was employing. Thinking that possibly our improved knowledge of the constituent of Calabar bean had resulted in the removal of some portion of the alkaloid known commercially as physostigmine at the time of the issue of Pharmacopœia, a comparsion was made with a sample over ten years old, which Mr. Holmes kindly loaned me from the Museum of the Pharmaceutical Society. But this corresponded in every particular with the one which I had previously been employing, and pointed to the conclusion that the fault did not rest with the alkaloid, but with the test itself. On referring incidentally to my inability to perform the test to Professor Attfield (in whose laboratory I am working, and whom I must thank for the opportunity of publishing this short note), he suggested that undoubtedly an alkali was needed and possibly ammonia might give the desired result.

The reaction was therefore performed, adding ammonia to the aqueous solution before evaporation, and the bluish residue was satisfactorily attained, the acidified solution of which was beautifully dichoric blue and red.

Further experiments were made with solutions of the hydrates and carbonates of potassium, sodium, calcium, and barium, all of which redden the solution of the alkaloid, but in no case was a bluish residue obtained on evaporation; whilst with other salts—as well as hydrate—of ammonia the bluish residue and dichoric solution when acidified were readily obtained, pointing undoubtedly to the fact that the bluish residue is an ammoniacal compound with the alkaloid.

On referring to the French Codex, the only other Pharmacopœia in which the alkaloid physostigmine itself is official, I find a very similar test described, ammonia being necessary for its development. From the foregoing it will be seen that there is an omission in the text of the Pharmacopœia of the "ammonia." It is suggested, therefore, that the test in future editions should read "when evaporated to dryness over a water bath *with ammonia*, leaves a bluish residue, the acidified solution of which is beautifully dichoric, being blue and red."—John C. Umney in *Pharm. Jnl. and Trans.*

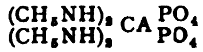
ON SPERMINE.—The interest aroused during the past year amongst medical men by the testicular injections proposed by Brown-Sequard in senile debility, impotence, etc., suggested the thought that the source of this reaction might perhaps be found in Spermine, a base isolated by Schreiner in the year 1878. For a long time peculiar crystals had been observed in animal organs and secretions—first, in leukæmia of the spleen (Charcot & Robin, 1853). They were frequently observed in the sputum of bronchial patients, in the portal blood of an anæmic, on drying the human sperma, in bone marrow, etc. With respect to their chemical nature, these crystals were differently regarded until Schreiner (*Annalen der Chemie*, Vol. 194, 74) recognized them to be the phosphate of a new organic base. Schreiner boiled fresh sperma with alcohol for the purpose of coagulating the albuminous bodies; cooled, filtered after a few hours, and dried the residue at 100° C. The finely triturated substance was extracted with warm water rendered slightly alkaline by ammonia, when besides traces of albuminous combinations, the crystalline substance is completely dissolved, and on evaporating remains in the form of the peculiar crystals. In this manner 5.23 per cent. of the dry substance of the sperma could be isolated. Also, from the surface of a calf's liver, of a calf's heart, and from several testicles of a bullock which had been preserved in alcohol, they could be isolated by scraping off and treating as above described. The crystals exhibited a characteristic flat-arched combination of prismatic and pyramidal outlines, such as may not seldom be observed in plaster-of Paris and simple phosphate of potassium. After re-crystallization, they frequently combine to form neat crosses and rosettes. The purified crystals exhibit the following characteristics: They are very friable, perfectly transparent, colorless, insoluble in cold water, with difficulty soluble in hot water, but on the other hand readily soluble in diluted acids, as also in caustic alkalies and alkaline carbonates, including ammonia. The pure aqueous solution renders sensitive red litmus paper blue; on drying the reagent paper in the air, the color disappears. At about 100°, the crystals cake together, assuming a yellow tint, and at 170° C., they yield a somewhat brownish enamel, which becomes firm on cooling. If heated more, they decompose, dispelling ammoniacal products of decomposition and leaving behind a shiny coal difficult of combustion. On platinum wire the crystals color red the outer point of the blue flame of a fusion tube. With a mixture of magnesia in solution of ammonia, the characteristic precipitate of phosphate of ammonia-magnesia at once results. The author found 21.2 per cent of water of crystallization in the little crystals; 31.26 per cent. of P 205, and 14.7 per cent. of N, computed on the basis of anhydrous substance. The free base was produced by treating the phosphate with barium hydrate. The filtrate of phosphate of barium furnished, when evaporated, a colorless, odorless, pungent-tasting, viscous syrup of pronounced alkaline reaction which in a thin layer presented wavellite crystals. Exposed to the air, the crystals disappear rapidly, and the syrup becomes fluent, taking up water and carbonic acid. In absolute alcohol the base dissolves and remains behind in a wavellite-like form. In ether only traces were transformed. With phosphate of sodium or phosphoric ammonia-magnesia, the characteristically crystallizing salt is at once formed again. The aqueous and strongly alkaline solution of the base, exhibits the following reactions:

On warming with potassic lye—development of ammonia. Chloride of zinc—white, flaky precipitate, soluble in hydrochloric acid. Solution of tannin—white, flaky precipitate. Chloride of gold—immediate formation of golden yellow precipitate, gradually crystallizing. Platinum chloride—gradual separation of delicate tables arranged one above another. Phosphor-wolframic acid and molybdic acid—precipitates.

For the isolation of Spermine from liver, spleen, lung, and blood of cattle, as well as from the human organs, the author employed phosphor-wolframic acid. The substance, finely cut up, is boiled in water, adding a little acetic acid; the filtrate precipitated with acetate of lead in only moderate excess; the filtrate freed from the precipitate of lead with sulphuretted hydrogen; the latter removed by warming, and then precipitated again with phosphor-wolframic acid. The resulting precipitate is first washed by decantation, and then upon the filter with water very slightly acidulated with sulphuric acid, and then decomposed with barium hydrate in warmth. After removing the excess of barium from the filtrate by means of carbonic acid and evaporation, the Spermine results, and may be further purified by a transformation into the phosphate in neutral solution. The hydrochloric salt crystallizes in hexagonal prisms which are permanent in the air, and which unite, usually forming tuft-like needles, insoluble in ether, almost insoluble in strong alcohol. The platinum salt separates out in tolerably large prismatic crystals. The double gold salt forms beautiful golden-yellow tables, possessing the delicate lustre of mother-of-pearl. Treated with magnesium, this combination develops an intense odor of fresh human sperma. From the gold salt thus decomposed, or decomposed with H_2S, Spermine cannot again be obtained.

A. Ladenburg and J. Abel (*Berlin Berichte*, 1888, 757) obtained, by heating the hydrochlorate of ethylendiamin, the desired ethyelenimin. With iodide of potassium and bismuth the hydrochlorate combination yields beautiful crystal tablets. The chlorhydrate exhibits the same crystalline form as the hydrochlorate of Spermine. The double platinum salt crystallizes in bright yellow prisms, and the double gold salt exhibits the same crystalline form as does the double Spermine salt. With phosphoric acid the base of the authors assumed no crystalline combination. Determinations of molecular weight, performed by means of the density of the vapors, showed that the authors had a polymer of the ethylendiamin—the di-ethylendiamin—in hand.

In Schreiner's salt the authors could show the presence of lime. They conjecture that this base was in Schreiner's hands, perhaps, in the form of the double salt of lime of the formula:



$$\begin{matrix}(CH_2NH)_2 & & PO_4 \\ & CA & \\ (CH_2NH)_2 & & PO_4\end{matrix}$$

—an hypothesis which is supported by the values obtained by Schreiner for nitrogen and phosphoric acid.

Many experiments have been made with the Brown-Sequard testicular injections, and have always been followed by more or less favorable results. Prof. Kostjurin experimented on seven persons, and came to the conclusion that the testicular injections are permissible in cases of defective nutrition, debility and marasmus, producing generally a quite remarkable improvement. Prof. K. usually employed unfiltered solutions; for the parenchymatous substance of the testicle, 5 to 6 c. c. of physiological solution of chloride of sodium (0.7 per cent.) were taken, stirred into an emulsion with a glass rod, and then, after 1 to 2 minutes, injected to the extent of 1 c.c. Whether Spermin also possesses similar favorable action on the organism, is yet to be determined.

As has already been reported (*Zeitschrift*, 1889, 816), Messrs. Parke, Davis & Co., of Detroit, U. S. A., have recently produced the Spermine, and this firm may eventually, perhaps, place it on the market, if this action should be determined by pharmacologists. As we learn, however, from a letter of this American house, directed to the firm of Stoll & Schmidt, and kindly placed in our hands, they have thus far not manufactured this substance, except for experimental purposes.—Prof. Kobert in *Pharm. Zeitschrift für Russland*, April 22d. 1890.

Notes and News.

The Bouquet of Wines and Brandies.—M. A. Rommier shows in a paper contributed to the French Academy of Sciences that different ferments produce from the same grapes wine of different flavor, and that solutions of sugar fermented by means of the natural ferments obtained from different districts, yield on distillation alcohols possessing different odors; and it is suggested that the characteristic bouquet is due to a compound ether formed from the alcohol combined with a fatty acid produced from the fat which each ferment manufactures from the sugar for its own use.

Death of a Well Known Pharmacist.—William R. Woodward, of the firm of E. Fougera & Co., Brooklyn, N.Y., who died July 5th, was born at Georgetown, D.C., in 1840, and moved to Brooklyn when quite young. He served in the army and navy during the civil war, and afterward was connected with the dyewood and wholesale drug trade. Subsequently, with F. V. Heydenrich, he purchased the business of E. Fougera & Co., with which he was ever after identified. Mr. Woodward was a man of noble and generous traits of character; as a merchant he was a man of probity, well known abroad as well as at home, and a member of the New York College of Pharmacy.

A Belgian Chemist has discovered a means for rendering texture, no matter how delicate in fabric or color, proof against the ravages of decay. The wonderful state of preservation which the headbands of Egyptian mummies exhibit, is due to their having been impregnated with a kind of resin. This led the inventor to make certain experiments with the substance extracted from birch bark, to which the peculiar aroma of Russian leather is due, and he found that the green tar, which was left over after the oil is used in tanning, had been extracted from the white bark of the birch tree, yields neither acid nor alkaloid, and that in solution with alcohol it forms a liquid of remarkable fluidity with the power of resisting, when once dried, even the action of alcohol.

A Glass of Lager.—A writer in a German newspaper has had the temerity to jot down the ingredients which go to make up a glass of beer in Germany. The pharmacopœia of the beer barrel this scientific man sets forth in alphabetical order. We give the German nomenclature for fear of spoiling the brew. It consists, says the writer, of alcohol, althopfenol, aloe, belladonna, biercouleur, bilsendraut, bitterklee, buchenspane, caraghenmoos, coloquinten, enzian, fichtennadelh, gogel, gelatin, glycerin, hazelnuszspane, hausenblase, herbstzeitlose, hopfenaroma, hopfenbittersaure, Ignatiusbohne, ingwer, kamille, kartoffelzucker, kardobenedictenkraut, kokelskorner, koriander lakritzensaft, laugensalze, malzetract, metallsalze, mohn, moussirpulver, natron, nieszwurz, nux vomica (brechnusz), pikrinsaure, pottasche, quassia, reis, salicylsaure, schafgarbe, Spainscher, pfeffer, soda, starkezcuker, starkemehl, strychin, syrup, tannin, tausendguldenkraut, tischlerleim, wachholder, waldmeister, weidenschalen, wermuth, zuckercouleour, etc. This is why we *pass* on lager.—*Pharmaceuticvl Record.*

Santonin and Castor Oil.—Having been called upon to dispense a prescription ordering santonin with castor oil, Herr Reuter was led to experiment as to their solubility relations, concerning which contradictory statements have been made. The result was (*Apot.-Zeit.*, May 10, p. 246) practically to confirm a statement by Professor Flückiger, that if finely powdered santonin be heated with castor oil on a water bath, even though vigorously shaken, it will not dissolve to the extent of more than 4 per cent., the greater part of which will crystallize out on cooling. Experiments with 1, 1·5, 2, 2·5, 3, 3·5, and 4 per cent. of santonin, showed that it was soluble in castor oil in these proportions when heated in a water bath, but that from the 1·5 to 4 per cent. solutions the santonin separated in handsome crystals on cooling. From the 1 per cent. solution prepared in small quantities there was only a very slight separation when reduced to a low temperature, but a solution prepared from 0·5 gramme of santonin to 50 grammes of oil remained perfectly clear and free from separation at a temperature of 15° C. during two days. A 0·5 per cent. solution remained absolutely clear at 15° C. during four days. The use of finely powdered santonin and the application of heat are essential, as santonin added to cold castor oil sinks to the bottom, whilst the viscosity of the cold oil hinders diffusion by shaking.—*Phar. Jour. and Transactions.*

A Perfume Insect.—Mr. G. A. Farini, in his work entitled 'Through the Kalahari Desert," relates the following interesting fact, which may possibly lead to the compounding of a new perfume:

"Three days' easy going brought us to Ghanze without any notable incident. As we drove to the water, the forewheel of my wagon crashed into a bush, which at once gave out a *powerful and delicious* perfume. Jumping down to examine the cause, I plucked some leaves, but found they were scentless, as was also the stem of the plant. I could not make out where the pleasant odor came from until I touched a small *beetle*, when out came a puff stronger than ever. The little bug was an animated perfumery store, emitting the delicious scent whenever disturbed. I caught three of them and put them in a perforated box, in which they lived for a week, the movement of the wagon affecting them sufficiently to make them give up their fragrauce in such quantities as to keep the wagon perfumed like Rimmel's. When they died, the scent died with them."

It is true that the locality where these remarkable insects are met with is rather out of the way, being situated in about 21.45° S. and 21° E. (of Greenwich), between what is known as Demara Land and Khamas Land. But as the author is known to be reliable, and has brought back so many other remarkable novelties, there is no reason to doubt the existence of the "perfume" insect.—*The Sanitarian.*

DRUGGISTS' BULLETIN

A MONTHLY EXPONENT OF

PHARMACEUTICAL PROGRESS AND NEWS.

VOL. IV., NO. 9. DETROIT, MICH., SEPTEMBER, 1890. { $1.00 a year. Single copies, 10 cents.

THE DRUGGISTS' BULLETIN.
ISSUED MONTHLY.

EDITOR:
B. W. PALMER, A. M., M. D.

COLLABORATORS:
PRACTICAL PHARMACY.
J. LE ROY WEBBER, PH. G., LEON C. FINK.

CHEMISTRY.
F. A. THOMPSON, PH. C., J. B. NAGELVOORT, PH. G.

BOTANY AND MATERIA MEDICA.
H. H. RUSBY, M. D., G. SUTTIE.

PHARMACEUTICAL APPARATUS AND INVENTIONS.
J. B. RUSSELL, PH. G.

GEO. S. DAVIS, Publisher,
P. O. Box 470, DETROIT, MICH.

Articles designed for insertion in THE BULLETIN, subscriptions, advertisements, and all communications should be addressed to the publisher.

Editorial.

THE MEETING OF THE A. P. A.

We present our readers in this issue of the BULLETIN with a complete account of the Proceedings of the American Pharmaceutical Association. That the Old Point Comfort meeting was a success, goes without saying, since Virginia hospitality is proverbial, and it was never exhibited to better advantage than on this occasion.

No inconsiderable attention was given to the discussion of direct trade interests. This and the social features overshadowed to considerable extent the scientific proceedings. Indeed, as many members expressed themselves, this was their only outing during the year, and they felt it their duty to take advantage thereof to the fullest extent. "Scientific papers usually afford rather dry amusement, beside, they are published in the yearly volume of Transactions where they obtain a better and more critical audience, and are far more to the purpose." The result was that while many papers were read by title only, or merely a synopsis given, others received no attention farther than a general resolution to refer to a Committee on Publication. Dr. James, of St. Louis, expressed himself as opposed to the reading of scientific papers, especially at State Associations, for reasons very like those above expressed; but Mr. Finlay, of New Orleans seemed to think the few who listened to such papers "leavened the whole lump" so to speak, and thereby gave standing to the meetings, to say nothing of the papers being an immediate source of support.

The social features in connection with the Convention were pronounced. We have given the programme in a former issue of the BULLETIN, and it remains only to say it exceeded general expectations, and embodied receptions and entertainments of various degrees, both on land and sea, and at the hands of the military authorities of Fortress Monroe. A goodly number also visited Richmond, Luray Caverns, and the Natural Bridge, on their way home. There was a time when the latter was a feature in geographies, but that was so long ago, as one member expressed it, that the majority of the world, including the citizens of the United States, had forgotten such existed.

The next Convention will be in New Orleans, in May, 1891, and presided over by the veteran Albert B. Taylor, of Philadelphia. As the Local Secretary is Mr. Finlay, who is in himself an epitome of the hospitality for which the Crescent City is noted, it will, no doubt, rival in all that is enjoyable the meeting that has just closed.

Among the papers presented at the Convention were the following:

The Constitutional Obligation of Congress Regarding Weights and Measures, by Oscar Oldberg; Cascara Sagrada and Its Allies, How May Pharmaceutical Education be Made Practical and Adapted to the Practice as well as the Theory of Pharmacy, by Dr. H. H. Rusby; A paper by Dr. W. Simon, on the same question as Dr. Rusby's second paper; Weights and Measures, by Chas. O. Curtman, M. D.; Synopsis of a Course in Microscopy for Pharmacists, by Dr. H. M. Whelpley, F. R. M. S.; On the Emetine Value of Fluid Extract of Ipecac, by W. Simonson; Pharmacists as Food Inspectors, by L. Myers Connor, Ph. G.; The Florida Phosphate Fields, by H. Robinson, M. D., Allotropy of Silicon, by Henry C. Cushman; Albuminate of Iron and Its Preparations, by Dr. Adolph Tsheppe; Pseudo Douglassii, Carière, as a Substitute for Quercus Suber, by A. O. Ingalls; What Amount of Sand is Present in Commercial Asafœtida, by W. A. Puckner; A Review of the Various Methods of Percolation, by J. W. Ecford; Belladonna Plasters, by Seward W. Williams.

Many of these papers will appear in subsequent numbers of the BULLETIN.

THE ETHICS OF JOURNALISTIC COMPETITION.

It perhaps would be visionary to expect in these days of active competition in all kinds of business enterprises that all the contestants for patronage should govern their methods of transacting business according to established customs of courtesy and ethics.

It is at least to be regretted that some among journals which represent the learned professions should so far forget their high mission of recording the progress of such art, and elevating and enobling its practice, as to adopt means of advancing their financial interests which savor, to say the least, of chicanery.

We allude to the recent action of a prominent pharmaceutical journal which attempts to reflect discredit on all other journals in competition with it by means that, we cannot but think, are foreign to its own best interests, and calculated to deceive rather than to inform pharmacists and the drug trade of the truth as to the distribution and character of its competitors.

In the *Druggists' Circular* for August, 1890, appears a conspicuous advertisement entitled "Census of Drug Journal Circulation." This title would seem intended to convey the fact, that it had some official significance and was to be an authoritative and properly substantiated record of the circulation of the pharmaceutical journals of the United States. The desirability of such a record must be acknowledged, but the method adopted for attaining the so-called facts as described in the *Druggists' Circular* was extremely faulty and unreliable, as we believe we can readily show. Our reasons for this belief are the following facts conveyed by the *Circular* itself, from which we quote:

> In order to get an idea of the relative paid circulation of the various drug journals, I was appointed a committee of one to ask for such information. Accordingly a printed and addressed postal card was mailed to every druggist in the principal city of each State and in the whole state of Ohio, according to the last edition of Martin's Druggists' Directory. The latter State was selected from its geographical position, as it was claimed as a special field by several local western journals.
>
> While the following report of this census is not as complete as I would like, yet it gives in a general way, information that is far more reliable and important than the verbal statements of irresponsible advertising solicitors.
>
> E. T. BAKER, Comm.
>
> CITY AND COUNTY OF NEW YORK: ss.
>
> E. T. Baker, being duly sworn, deposes and says: That at the City of New York he compiled the returns contained in the accompanying report, and that such returns are true and correct to his own knowledge; and deponent further says that he caused to be mailed the postal cards containing returns in the way mentioned. That such mailing took place under deponent's direction as aforesaid.
>
> E. T. BAKER.
>
> Sworn before me this 13th } FREDERICK KOPF, Notary Public [70],
> day of August, 1890. } N. Y. Co."

The validity of the facts of such a report is undoubtedly questionable. A certain Mr. E. J. Baker, to fame unknown, confesses to sending postals to every druggist in one principal city only, of each State, and to the complete list of druggists in only one State, that of Ohio. *On this basis is estimated the circulation of competing journals.*

The writer has had considerable experience in sending communications to druggists requiring replies, and believes that others who have been accustomed to addressing druggists in this way will bear him out in the statement that a very small percentage of druggists addressed make reply.

On this flimsy and utterly inadequate basis the *Druggists' Circular* calculates the circulation of its competitors, and in making the final table or statement of distribution classes all other pharmaceutical journals except the *Druggists' Circular* itself, on the imperfect knowledge such a basis affords. It seems sufficient to its management to state, however, that *their own* books show a circulation of 12,000, as they naively announce that they themselves count their own list of subscribers 12,000 while the other journals not only have no opportunity to make a count or present the facts as to their circulation but are assigned places in this scale of merit on the percentage basis of this unfairly estimated distribution. We must regard this report of circulation of the titled Mr. Baker, (Comm.)? quoted above, as far more misleading than those of the irresponsible advertising solicitors he condemns. Since the *Druggists' Circular* states in the announcements made of total circulation that all the details of this census are open for determination and verification, we may be permitted to inquire if it desired an impartial count of all the journals covered by its statements, why it did not base its count of its own circulation on the postal card returns, *instead of its own books?*

As to the total circulation of the DRUGGISTS' BULLETIN, which the *Druggists' Circular* estimates as 616, we must characterize this as unqualifiedly false, and present below duly attested affidavits of circulation for the first six months of current year showing that our circulation has been three-fourths that assumed by the thirty years old *Circular*, and we have no doubt that we shall survive our aged competitor, which shows evidence of decrepitude in its fear of its young rivals, under the guise of official statistics. "Live and Let Live" is an old-fashioned motto which we would commend to our esteemed but misguided contemporary.

STATE OF MICHIGAN, } ss.
COUNTY OF WAYNE. }

James H. Walker, first being duly sworn, deposes and says: I am manager of the Printing Establishment in which the DRUGGISTS' BULLETIN, published by George S. Davis, is printed, and mailed during the months of January to June, 1890, inclusive, upwards of 50,000 copies of said BULLETIN.

J. H. WALKER.

Subscribed and sworn to before me, this 16th day of September, 1890, at Detroit, Michigan.

CHARLES M. WOODRUFF.

A Notary Public in and for the County of Wayne, Michigan.

UNITED STATES POSTOFFICE,
DETROIT, Mich., Sept. 17th, 1890.

To whom it may concern :

This is to certify that the DRUGGISTS' BULLETIN, a monthly publication, published by Geo. S. Davis, Esq., mailed at this office from January to June, 1890, inclusive, fifteen thousand and thirty-eight pounds of said publication (the equivalent of 52,000 copies of the DRUGGISTS' BULLETIN).

ELLWOOD T. HANCE,
Postmaster.

NOTES ON THE TENTH INTERNATIONAL MEDICAL CONGRESS RELATING TO PHARMACY.

Judging by the reports that have thus far reached us, the Berlin Congress appears to have been a success—as much of a success as such large gatherings ever are. Nearly eight thousand cards of membership were issued, of which, of course, the major portion were to Germans. The next greatest number in attendance—six hundred and twenty-three—was from the United States, while Russia sent four hundred and twenty-one, and Great Britain three hundred and fifty-three.

Upwards of seven hundred papers were presented, of the value of which it is impossible to judge at the present writing; but epoch-making discoveries or researches, as a rule, do not obtain to these gatherings, being offered, instead, through the National societies and the medical press. In fact, we are very much inclined to voice the sentiment editorially expressed by the *Medical Record*, that:

> The true science of medicine is modest and of a retiring disposition, and likes to do its work in corners; it makes simple announcements of the results of its labor. Not so, however, with the frequenters and hangers-on of Congresses. What would hopelessly disturb pure science, is the very life-blood and delight of pseudo-science; the former despises what the latter revels in.
>
> Every Congress thus far has suffered from the polyglot clamor of those who go to blow their own trumpets, those who are mere medical politicians, wire-pullers, open advertisers, brazen-faced priority-claimers, and a host of people who have little axes to grind. True merit too often stays at home. Thus it has happened that important medical discoveries have never been first announced before the Babel of these triennial mass-meetings. But the consultation-hunters, the claim-everything agents, the notoriety-promoters, the enterprising hob-nobbers, the "strictly business" doctors, and those little fellows who so dearly love to rub up against the big fellows—these, and others like them, are always out in full force.
>
> The real importance and undisputed popularity of International Medical Congresses are chiefly found in the social features that accompany them. The solidarity of our profession is thereby brought home to representatives of all civilized nations. And the world at large may be confidently invited to witness a demonstration of International good-will, which should go far toward fostering humanitarian, as opposed to warlike instincts. It is in these larger aspects that Medical Congresses deserve the encouragement of unflagging interest and serious attention.

Nevertheless there is much of interest attached to these gatherings, especially in the exhibitions. The display of ambulance, hospital, and surgical appliances was, by long odds, the grandest the world has ever seen. The chemical exhibits also were fine, and greatly surpassed, both in appearance and value, those at the Paris Exposition; and a notable feature was the entire absence of those fancy and catchy arrangements calculated to please the eye, and distract attention from the real merits of the articles displayed. English and American visitors were, moreover, surprised to find that German houses are no longer ignorant of when, where, and how to secure the more rare drugs of vegetable origin, by tapping original sources of supply, as was shown by the variety, extent, and value of a considerable number of collections in this department. Not a few of the drugs were staples that heretofore had been obtained through English and American dealers.

The sessions of the Pharmacological Section were held in the Pharmacological Institute, and presided over by Professor Liebreich, assisted by honorary-President, T. Lauder Brunton.

Among the important matters discussed was the feasibility of a universal Pharmacopœia. The conclusion reached was that the time had not yet arrived when the latter would command the interest and respect such a work should possess; but it was recommended that an attempt be made to secure greater specificity of description and uniformity of manufacture, whereby the official preparations of different countries might be made more nearly to correspond to a single standard. It was pointed out that a physician visiting a foreign country was apt to be misled, and thus perpetrate grave errors, by assuming a specified product of like title was approximately the same as that to which he was accustomed.

One thing especially attracted discussion, viz., the rush in Germany for synthetic preparations, whereby chemistry has reached such development that it seems as if old and standard remedies, especially those of vegetable origin, were about to be cast aside. What the ultimate effect of this may be it is difficult to imagine; as one speaker pointed out, the time may come in Germany when all new remedies will be patented. That such is not apt to obtain in England and America, however, where the better class of pharmacists and physicians have no sympathy with patented preparations of any class or quality, is patent.

The German Pharmacopœia is responsible for this state of things in no small measure, for the processes of the last century still remain official. While all therapeutic development is in the line of chemistry, whereby new organic salts are brought into use, and organic research has produced a myriad of complex substances, there has been no progress, comparatively speaking, in the development of Galenical pharmacy by modernizing pharmaceutical processes and placing more reliable preparations at the disposal of the medical practitioner. One might surmise from this that the pharmacist of the "*Faderland*" is more a chemist than a druggist, and such would be true were it not for the fact every *apotheker* must be a manufacturer of Galenical preparations in the true sense of the word; further, the new patented preparations are rarely the products of pharmacists, but of special chemical works—*farbien fabriks.* Evidently the better class *apothekers* in Germany deprecate this state of affairs, and are in grave doubt where it will lead, for it was openly charged in the Congress that it is due to the late German Pharmacopœial Commission, which exhibited a woeful lack of knowledge regarding the needs of science, and that it did not represent German pharmacists as a body. Dr. Carl Schacht, one of the members of the Pharmacopœial Commission, during the discussion admitted such was the case, and confessed his inappreciation of the necessity for standardization. The concensus of opinion, however, was that Galenical preparations were at least deserving of as much precision as, say, the latest synthetic product. Now that the matter has been openly discussed in Berlin, it is probable it will be kept under discussion until the principle of Galenical exactitude is generally agreed to throughout Germany. If this is accomplished, even if nothing else should result from the Tenth International Congress, it will have done good work.

THE DOWNFALL OF PHARMACY.

Since the *New York World* discovered a mare's nest in the midst of the pharmaceutical profession in New York, and proved to its own supreme satisfaction that druggists are a guild of Shylocks beside whom the Jew of Shakspeare melts into insignificance, it has become the fashion of the rural puppies of the press to imitate the bark of their larger relative. Indeed, they are quite in earnest in convincing the "suffering public" that it is gulled by druggists in a way to make the forty thieves blush with envy or shame or both.

The latest effusion appears in the columns of the *Pittsburg Dispatch* for August 17th last. The writer must not be supposed to have an axe to grind, either for himself or anyone else, because he abuses soundly all practitioners of medicine not of the purely original little pill and food-for-canary bird stripe, and at the same time lauds someone's "tablet triturates" as domestic panaceas that will do away with the necessity of employing a physican. Oh, no! Medical men—the homœopaths excepted—and pharmacists, are linked in a firm bond of brotherhood to waylay, rob, and destroy all with whom they come in contact. Druggists pay "allopathic doctors"—whatever they may be—sixty per cent. on sales, and still reserve enough for themselves to retire as millionares in a few brief years!

The information regarding ——'s "tablet triturates, is refreshing. They embody not only single ingredients from which compounds may be made at a moments notice, but also "the ingredients of complete prescriptions by the most noted medical men," and are "always exact and the purest and best obtainable"—which the prescription dispensed by the pharmacist is not—and patients can thereby dispense with the medical man, except as they may need his diagnosis alone, and treat their own maladies by purchasing the aforesaid ——'s tablets (of course) of the manufacturer "when they cost but a trifle as compared with the prices charged by the druggist." Naturally, the druggist "must go!"

Such is the character of an argument carried on through four columns of solid minion type, the gist of the whole being that neither medical men (unless homœopaths) or pharmacists, are to be trusted in any of the affairs of life; "better to die a natural death than be both killed and robbed." Why the clergy, undertakers, sextons, and monument men were forgotten is at present a mystery. Finally the paper closes with a list of druggists and their places of business, and the price charged by each for a four ounce phial—"bought by the druggist at $2.00 a gross with a discount of 80, 10, and 5, or about one-half cent each"—filled with a six per cent. solution of sodium chloride, "the treatment usually given for catarrh and sore throat," and another containing simple chalk mixture, "the invariable remedy for children's complaints and digestive irregularities." Thus, the price for a solution "a cask of which might have been bought for one-third the price asked by the druggist," varied from 25 to 45 cents "according to the time taken to compound the mixture and the additional embelishments that were put upon the bottle."

It is such wilful falsehoods, prompted too often by a desire to levy black-mail, and aided by the garbling of facts, that lead many citizens to pine for some of the law that marks the censorship of newspapers in the Old World. It is time the ubiquitous reporter, who invariably draws upon his imagination—fortunately in the same vein, for there is only one string to his *lyre*, no matter how vigorously he may twang it—for his "facts," learned to "stick to his last," instead of giving sensational accounts of matters of which he is wholly ignorant. He seems not to know that while "any fool" may juggle with ink, the profession of medicine and pharmacy means *brains.* Both require years of study and and application, with great expense, all representing an outlay of capital, the interest upon which, compounded, must, or should, be returned after he enters upon his calling. Add to this the ready-cash capital requisite to stock a well-equipped pharmacy, and the vast amount of rare and all-but-dead stock that must be carried pursuant to call, and that is idle not only for months, but oftentimes for years, and it will readily be seen that a charge of 25 or 30 cents for a four-ounce mixture of one part of paregoric to three of chalk mixture is by no means exorbitant; neither is it for a like quantity of six per cent. chloride of sodium mixture. Aside from all this it must be remembered the fixtures of a pharmacy represent no small outlay, while rent is usually large, since not every shop or location suitable to the trades is in a like manner suitable to the druggist.

The public, including the obscure members of the rural lay press, should learn that pharmacy, like medicine, is not a trade; that, unlike the grocer, the pharmacist's wares are not staples of every-day sale, and his waste, owing to the small quantities passing over the counter, is infinitely greater; that pharmacy is a calling wherein is sold *brains* in greater degree than drugs. The pharmacist charges, not a per cent. on the market value of his paregoric, chalk, salt, water, and phials, but for his knowledge—for *knowing how* to properly ascertain these drugs are exactly what their names represent, and to compound in an artistic and proper manner in the way to best meet the requirements of the patient and the intentions of the practitioner; further, he stands as a bulwark of safety between the two; he protects one from the possible errors of the other, and both from their own errors, which are by no means infrequent.

As evidence of the fairness of the pharmacal calling towards society at large, may be pointed out the fact that retail pharmacists of great or even moderate wealth, are of extreme rarity; a large number, in order to secure a living income, are forced to add side issues to their profession, such as soda fountains, cigar counters, stationery stands, patent medicine nostrums, etc. Had the erudite reporter of the *Dispatch* begun at the other end of the line, and first sought out the millionaire pharmacists, and chronicled the means by which their vast wealth was gathered, he might have "done the State some service," as thereby the public would have had a better idea of the "sources of grandeur," and the tale would have had quite a different ending.

If the pharmacist is to free himself from this sort of criticism, he must aspire to higher standards of professional attainment, and forsake the sale of classes of merchandise which place him on a level with the liquor seller, the grocer, the cigar dealer, and the patent medicine shark.

It is true he may eke out his expenses by these means foreign to pharmacy, but at what a sacrifice of professional standing! If phamacists are to be regarded professionally by the public, as the best class of physicians are, they should confine their business to the dispensing of drugs or preparations that accord with the ethical laws which this class of physicians are governed by.

It may be visionary to expect that this ideal of pharmaceutical practice can be realized. We are optimistic enough to predict that in the evolution of pharmacy this much to be desired ideal will one day become a reality.

Original Articles.

PRACTICAL PHARMACY.

THE EVOLUTION OF PHARMACY.

BY JUSTIN W. M'EACHREN, PH. C.

The ancient Egyptians had a law which compelled every man, rich or poor, bond or free, to learn some trade or profession. It also provided, that having once entered upon a specific calling, it should not be relinquished for some other, according to the caprice of the individual. The bricklayer might not become a sandal-maker, the farmer must remain at his plough, the alchemist at his alembic, the astrologer in his turret, the magician and soothsayer at his charts and incantations, the physician at the bedside of his patient, and the gatherer of herbs and simples in his dim and dingy shop. The lines of demarcation between the different vocations of this wonderful people were thus well defined, and being restricted to one trade, or profession, knowing well that they might not exchange for something else, it had a natural tendency to increase the proficiency of each, and make the Egyptians a nation of experts, so that, even in our enlightened age, we stand bewildered before those vast monuments to intellectual and physical skill,

> "Those temples, palaces and piles stupendous,
> Of which the very ruins are tremendous,"

and which puzzle the brains of our scientists and laugh to scorn our boasted mechanical devices.

It was in many instances a wise law, and with some modifications might be applied to the commercial and professional activities of this century with a view to lessening the superficiality and general incompleteness so characteristic of men's attainments to-day.

We make this introduction simply to emphasize how necessary it is that the limits of our different occupations should be well defined and strictly adhered to ere we may hope to attain our greatest possibilities, and stamp our productions, whether of brain or hand, with that finish which shall make them momuments to our wisdom and an example for the emulation of future generations.

Through the long vista of 6,000 years, the profession of Pharmacy has been slowly, and painfully unfolding, at times almost free, then for years lost in obscurity; the laws governing its evolution worked, unseen, but with a certain and persistent force, till finally outlines began to appear, peculiar characteristics to assert themselves, and Pharmacy as a distinct profession freed from the, at times, tyranical hand of Medicine, divorced completely from the darkening influence of a superstitious priestcraft—and having banished the demeaning companionship of Empiricism—took its stand, no longer a part of a profession, but one peculiar in itself.

Just at what point, or date, Pharmacy began to show distinctive evidences of its evolution, it is hard to determine, proof on this subject being very vague and contradictory. Undoubtedly, ever since the time when men first felt the touch of disease and realized that such required a remedy, there have existed isolated instances of persons, who followed a vocation having strong points of resemblance to what we conceive as the highest standard of professional Pharmacy, but these were so rare that they exerted little, if any, influence on the Phamacy of their day, and serve little purpose other than to show us that the work of evolution was steadily progressing.

The medical tree, in those early days of the history of Pharmacy, as well as of the world, had many branches, but it will be only necessary, in our present paper, to consider two of them. One, devoted to the gathering, preserving, compounding and dispensing of products used for the purpose of combating disease, and basing its methods upon a rational and natural foundation, which we will call *Pharmacy;* The other, appealing to the impulses, senses, imaginations, and superstitions of the people, which we will term *Empiricism*.

When Hippocrates turned his attention to this tree, about 400 B.C., and, with the pruning-hook of an advanced philosophy and a budding science, lopped off the cumbersome growth which ages of neglect had fostered, he revealed the beauty and strength of the parent stem. His efforts to establish the practice of medicine as a science, were accentuated by Galen and Aristotle, as well as other illustrious disciples of the Salernum school. During this period of active medical advancement and organization, we notice the strong throes of Pharmacy in its endeavor to be entirely free to follow the peculiar bent of its province, yet only succeeding so far as to become a recognized and valuable servant of the Esculapians rather than an integral part of their constitution. This was the greatest evolutionary step yet taken, and served to show the great possibilities of a complete separation from the parent trunk of Medicine.

A stationary period appears to have followed this great advance, lasting till about 1520, when Paracelsus attempted to overturn the natural system of Galen; and the empirical doctrines, which the Salernum graduates had forsworn, attached themselves to Pharmacy and became quackery pure and simple. Thus at an age when literature and art entered the dawn of the Renaissance, and science stood on the threshold of our to-day, Pharmacy, succumbing to the embrace of the octopus of quackery, took a backward step, and many years passed ere the fruits of its evolutionary struggles again manifested themselves and pointed hopefully to the not far distant dawn of a new and more advanced existence. True, some authorities state that Pharmacy in the 16th century was in a high state of advancement and practically a separate profession, or free art; but judging from the vantage-point of our conception of what constitutes a profession, we fail to find sufficient proofs to warrant us in indorsing this view. In some instances, which are recognized to-day as important elements in the ethics of Pharmacy, they were even in advance of our age; but taken as a whole, evolution had a great work yet to perform ere Pharmacy would stand among her peer professions as such.

In Bruges in 1683 the Apothecaries procured the enactment of a law forbidding physicians to dispense.

In Belgium in 1582, an act was passed that no one should open an apothecary shop who had not previously studied Pharmacy during three years, and adduced theoretical and practical demonstrations of his knowledge and capabilities, and taken the oath of the body corporate.

During the first three days only of the annual fair of the town of Bruges, were charlatans and tooth-drawers allowed in the town.

During the 17th century, pharmaceutical students while taking an academic course donned the "caput-coats" and sabers forbidden by law to be worn by tradesmen. The authorities interfered on the ground that an apothecary was a tradesman. The apothecaries protested, the association of Nuremburg petitioning the council against the injustice of this action of the police, ending their petition with the words, "This injunction rests all the more heavily upon us when we consider that our profession is not a trade, but is in reality a free art."

In Virginia in 1636, a law was passed regulating the fees of surgeons and apothecaries, this enactment being the result of the growing extortions and fallacies of quackery.

In New York, in 1664, there was a growing tendency to separate medicine and Pharmacy.

On the other hand; fetichism was an active factor in the Pharmacy of the 17th century.

The struggle of the thirty years war was no more fierce in Germany than was the constant and petty strife between the Galenists and Paracelsists in the ranks of pharmacy.

In Massachusetts, Pharmacy was largely in the hands of the Indians, schoolmasters, old women and clergymen.

From the foregoing glimpses into the pharmacal family circle we may form a fair conception of the state of Pharmacy, up till the beginning of the present century, when gigantic strides were made towards the professional goal, and this truly honorable calling took an advance which we trust it may never relinquish, for it is based upon the lines which will eventually evolve Pharmacy, professional, ethical and honorable.

We do not wish to convey the impression that we see no grievances in Pharmacy to-day; on the contrary we see many that cause us much annoyance and anxiety. Yet the proper key has been sounded, the true lines have been drawn, and it simply remains for those who love the profession to push it on to perfection.

It seems to be the misfortune of Pharmacy to be assailed by certain parasitic forms of business which have no connection, properly, with it, and which, like all parasites, greatly retard its growth. We often wonder, when watching the drug clerk juggling an egg-phosphate, drawing a glass of soda, or selling a cigar, how these things, more properly belonging to the saloon or confectionary, ever managed to get into such professional society, and we look forward hopefully to that day, we trust not far distant, when these demeaning acquisitions along with all other retarding agencies, shall be banished from the counters of every true pharmacy.

And now in leaving this subject permit us to make one appeal. There is much talk at present of advancing the medical standards of matriculation and graduation, and pharmacists wait anxiously the result, ready to follow. Why wait? Why not take the initiative and show to Medicine that Pharmacy is most truly a progressive science, and worthy in every particular to stand at her side as a sister? The day has even now dawned when the shades of Esculapius and Galen, so often at variance and useless strife, shall shake hands as brothers, and the mortar and ℞ be no longer symbols of servant and master, but the joint crest of a brotherhood.

DETROIT, Sept. 10.

PROCEEDINGS OF THE THIRTY-EIGHTH ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

The thirty-eighth meeting of the American Pharmaceutical Association was called to order by President Karl Simmon at 3 P. M., at Hygeia Hotel, Old Point Comfort, Va., on Monday, September 8th, 1890.

Mr. T. Roberts Baker, of Richmond, then addressed the Convention, welcoming the Association to the State of Virginia, as follows:

It is a duty that has devolved upon me, as well as a great pleasure, to welcome this Association to the soil of Old Virginia. Many of the members who are present will remember the meeting of 1873, which was held at Richmond. It was my good fortune, on that occasion, to be the Chairman of the Reception Committee; and I am happy to say that a most enjoyable and profitable time was spent. We will endeavor to make it so now, and in extending a hearty greeting assure you that nothing has been left undone to make your visit so truly pleasant that you will depart well satisfied with the result of your choice of this State as your place of meeting.

Mr. M. W. Alexander responded briefly, on behalf of the Convention, thanking the speaker for the sentiments he had expressed, and referring to the very pleasant surroundings of Old Point Comfort, which the Association was now assured was a wise selection for the meeting of 1890.

The President having called upon Messrs. Dohme and Bedford of the Committee of Arrangements to give an account of the entertainments which had been planned by that Committee, they responded, giving the programme which had been devised.

President Simmon then delivered the annual address. He expressed the deep regret of the Association at the death of its ex-President, Mr. Emlen Painter, alluding in eloquent terms to his personal worth, and earnest labors in behalf of the welfare of the profession to which he belonged. He suggested that a committee be appointed to draw up suitable resolutions expressive of sympathy with the family of the deceased.

Commenting on the action taken by the Convention in regard to the metric system, he observed that it would no doubt give rise to much unfavorable comment by druggists who have been long wedded to the old system. "But," he added, "the requirements of science demand the change; it is more convenient than the old, and all that is necessary for the pharmacist to do is to provide himself with sets of metric weights and measures; and this change can be easily made."

It had been expected that a great many of the newer halogen derivatives and compounds would be accepted and introduced into the new Pharmacopœia. The manufacture of some of these articles being under patent processes, justifies the action of the Convention to a certain extent, but there are so many of these compounds which have a very important hold in the medical profession, that it is to be regretted that they cannot be incorporated in the new Pharmacopœia. With the majority of pharmacists this is the only source of information in regard to these preparations, and it is to be hoped that the Committee will find a way out of the difficulty—perhaps by adding a Supplement on the subject.

The Convention had been ably represented by the Committee appointed by President Painter, all of whom had attended the Convention except Professor Mohr, of Alabama, whose place had been filled by Professor William Simpson, of Raleigh, N. C.

Referring to the array of talent on the Revision Committee, the President said that good results might be expected in the next issue of the Pharmacopœia.

With regard to the Committee appointed two years ago to visit the American Medical Association, some information might be expected in their report as to the action taken by that body, which would be of great interest to the pharmacists of the country, who are anxious to know the attitude of the medical profession towards them. Much is to be expected from the new Section on Materia Medica and Pharmacy, which has been established by the American Medical Association.

At the Convention of that Association at Washington in June next, the American Pharmaceutical Association should be recommended by a strong Committee, so as to be thoroughly informed on subjects desirable for discussion. These subjects should not be so much questions of trade pharmacy, of physicians dispensing, and counter-prescribing by the druggist, etc., as the desirability of having uniformity in medicines, and improvements in quality thereof. They should be respectfully requested to unite in making the U. S. Pharmacopœia and National Formulary a National authority. The subject of the endorsement of proprietary articles by medical men, afterwards to be used by shrewd manufacturers to boom such preparations in the well known "cure-all" manner, should also receive attention, though that would have to be done in a very diplomatic way.

The Section on Legislation should evolve some plan, in the near future, which would insure some uniformity in our pharmaceutical laws, as well as in the curriculum followed by the various colleges of pharmacy throughout the United States. Without some such uniformity, the matter of the exchange of certificates from one State Board to another would be very difficult. In a Convention of the Secretaries of the different States which would be held at this meeting, the matter would be carefully considered.

The annoying and vexatious question ot apprentices should also receive attention from this Section.

The Commercial Section has many important problems before it. It would be of interest to have a report from this Section on the co-operative systems which have been tried for some time in Chicago, New York, and Philadelphia. It would be of interest to druggists in the larger cities, who have to contend with the growing evil of cutting prices. The purely trade branches of pharmacy are more and more drifting into the hands of the general dealer; and that the drug stores are not increasing in the same ratio as formerly in the larger cities, is the best proof that there is no money in it. Here a rigid system of apprenticeship would come into play, as it would shut the door to those who wish to enter the business for mere dollars. It is these uneducated and incompetent persons who are injuring the drug business. The Association has an immense field to draw on for support, and, considering there are over 30,000 drug stores in the United States, and, on an average, two qualified pharmacists to each, the Association has a comparatively small number among its membership. This fact is due, in a great measure, to the lack of proper information, on the part of pharmacists, as to the objects of the Association. The State Associations should therefore work vigorously to spread a knowledge of the objects of the National Organization.

A suggestion had been made that every President of a State Association be made a Vice-President of the National Association. Such an arrangement would enlist the interest of some thirty-odd Presidents of such Associations, and bring them to the annual meetings.

The ex-President, Mr. Alexander, had offered some valuable suggestions on the question of finance, on the strength of which a Committee had been appointed to formulate a system of financiering which would take care of all future contingencies.

A communication had been received during the past year, from the Montpellier Academy, France, announcing the celebration of its sixth anniversary, and inviting the Association to send delegates to participate in it, to which a reply had been sent, expressing regret at the inability to do so, and expressing suitable congratulations.

A notice had been given, at the last meeting, of an amendment to the By-Laws, which would amalgamate the Sections on Pharmaceutical Education and Pharmaceutical Legislation, which would be considered at this meeting.

The President concluded his address by thanking Professors Ebert, Hallberg and Bedford, and Secretary Maisch for the many acts of kindness and valuable assistance rendered him in the performance of his duties.

On motion of Mr. Ebert, the President's address was referred to a committee of three, for consideration and report on the suggestions contained therein. Messrs. Dohme, of Baltimore, Md., Gordon, of Ohio, and Ebert, of Illinois, being appointed such Committee.

Mr. G. W. Kennedy, Secretary of the Council, read a list of 73 applicants for membership, which, on motion, were invited to join the Association.

The President: Has the Committee on Revision of the Pharmacopœia any report to present?

Mr. Ebert: On behalf of the Committee, I would say that we were continued, but there was no work seemingly necessary to be gotten ready, for our work was placed in the hands of the Committee on Revision at Washington, and since then nothing has occurred for this Committee to attend to—no business to be transacted.

The President: The next is the report of the Committee appointed to visit the National Wholesale Druggists' Association.

Mr. Elliott: I have no report to make, from the fact that I attended the meeting, and was so cordially received, and so sat down upon in the demands I made upon that Association, that I have nothing to say.

The President: The Committee on National Formulas, I understand, has no report to make at this time. Next in order is the appointment of the Nominating Committee.

Mr. Ebert: I have had a great deal to say about this matter of delegation, and I must say that I am a little at fault, if I understand it. Now, is it the ruling of the President that as the States are called, two names are proposed, whether there are any delegates here, credited or not; whether it is simply a matter of membership, or a matter of representation from the State Association, colleges of pharmacy, or otherwise? Now, I do not understand the position.

The Secretary: Section 7 of Article XI, Chapter IX of the By-Laws states:

> The President shall call the roll of States represented, requesting each State, in turn, to appoint two members, the persons so selected to act as a Committee to nominate officers for the Association and members of the Council for the ensuing year; in addition to which we shall appoint five members who are not delegates, to act with the Committee.

Mr. Alexander: Before the roll is called, I wish to give notice of an amendment I intend to offer in regard to that very Section, which is to strike out the words "who are not delegates." That has no meaning whatever. Under our old arrangement, our Nominating Committees were made up of delegates from colleges and from State associations. Under the revised Constitution and By-Laws, they are made up from two members of each State, without regard to delegates at all. By the words "who are not delegates," the President is hampered in making his Committee at Large, by not being allowed to appoint other than delegates. I therefore give notice of this amendment.

Mr. Hallberg: I would ask whether it is expected that members of the Association from each State shall hold a caucus, and then select members for the Nominating Committee, or how else can they select?

The President: It was intended that the delegates should designate whom they wish, and then propose them at open meeting. I would ask Mr. Alexander whether his motion refers only to the five appointed by the Chair.

Mr. Alexander: Yes; it merely strikes out the words I have mentioned, as having no meaning.

Mr. Ebert: I hope that Mr. Alexander will add one more amendment. I may refer back to the time when I opposed this appointment of two delegates. It was then urged that there might be one college of pharmacy and one State association, and each would desire representation. Now, we can come together on the same ground. If we must have this caucus, let us nominate but one man, who shall be appointed from a certain State, and then we will not take up the time of the Association for the sole purpose of nominating our officers.

Mr. Alexander: I decline to accept the amendment.

Mr. Ebert: Then I give notice that I have an amendment to offer which I will put in writing.

The Secretary: I desire to state that on two former occasions when this same matter was discussed a recess of five minutes was taken, to give the members from the different States an opportunity to confer together.

On motion a recess of five minutes was taken, after which the following Nominating Committee was announced by the secretary: *Alabama*, P. C. Candius, R. P. Galt; *Arkansas*, E. L. Dewoody, E. R. Gordon; *Connecticut*, C. A. Rapalyo, F. Wilcox; *Dist. Columbia*, J. R. Walton, J. A. Milburn; *Delaware*, J. S. Becton; *Florida*, S. P. Watson, H. C. Custram; *Georgia*, H. R. Black, Jr., Harry Sharp; *Illinois*, D. H. Ebert, C. S. Hallberg; *Indiana*, J. A. Hurty, F. W. Neissner; *Iowa*, Dr. Rosa Upson; *Kansas*, L. E. Sayre; *Kentucky*, W. H. Averill, W. Rogers; *Louisiana*, A. K. Finley, F. C. Godhold; *Maryland*, W. Simon, L. Dohme; *Massachusetts*, J. H. Manning, H. Canning; *Michigan*, A. B. Stevens; *Minnesota*, Karl Simmon; *Mississippi*, J. W. Bedford; *Missouri*, H. M. Whelpley, D. L. Haigh; *Nebraska*, C. F. Goodman; *New Jersey*, C. Mennen, R. J. Shaw; *New York*, R. G. Eccles, G. Ramsperger; *North Carolina*, F. W. Hancock, W. Simpson; *Ohio*, L. C. Hopp, J. Creyer; *Pennsylvania*, C. A. Heinitsch, R. A. Cornell; *Tennessee*, A. A. Kleinschmidt; *Texas*, L. M. Connor; *Virginia*, E. A. Craighill, E. R. Beckwith; *West Virginia*, E. Bocking.

Nominated by the President: M. W. Alexander, Mo; R. C. Hattenhauer, Ills; J. L. Lomberger, Penn'a.; Geo. F. H. Markoe, Mass.; W. J. H. Gordon, Ohio.

Mr. Sheppard: Before this subject is passed, I would make a motion, that each State be allowed to fill any vacancy that occurs in this Committee. We have the names of a number of delegates who are expected to be here, but if they are not present, each State should be allowed to fill its vacancies from other men.—Seconded and adopted.

The minutes of the Council at San Francisco, June 1889, and Old Point Comfort, Va., Sept. 8th, 1890, were then read by the Secretary of the Council, Dr. Kennedy, and on motion, duly seconded, accepted.

(Report of the Committee on Membership read.)

The President: Before I put this report to a vote for acceptance, I wish to call attention to the fact that this is the first time in the history of the Association that we have lost our presiding officer by death, as some gentlemen present may desire to say a word in regard to this sad event, and the resolutions regarding it.

Mr. Bedford: Allusion has been made to our deceased friend, Emlen Painter. A little more than a year ago he was with us, and presided at the closing session of our celebrated and interesting meeting in San Francisco. Shortly after his return East, his disease took an unfavorable turn, and soon rendered him incapable of attending to business, and he lingered only till just after the beginning of the new year, when he passed away. To-day would have been his birthday. He had looked forward to the time when he should meet the members of the Association at this place.

It was the intention of your Committee of Arrangements to have had on this platform a crayon portrait of Mr. Painter, which, when finished, was pronounced by one of his most intimate friends an admirable likeness, but owing to the delay of the Express Company, it has not been received.

Of the merit of Emlen Painter we all know; of his worth and character you have heard. I can add no words save those of earnest friendship and esteem for him, and to say that, as one of the earnest workers of this Association, we have in his death met with a great loss. A letter that I received from his widow on Friday last alluded to her great sorrow, and I have a request to convey to her many friends in this meeting her kind remembrance of our trip last year, and the enjoyment that she had experienced in company with many of our members.

Mr. Painter was a man of remarkable activity, of honest, earnest opinions, and when satisfied that he was in the right, he was not to be swerved by motives, of either opposition or other cause. He pursued what he believed to be right to the end. It is an unfortunate fact that many a man who is honest in his business, honest in his intentions, finds the way of life somewhat difficult in the pursuit of satisfactory and remunerative business, and it is a matter of regret that he should have been taken from us, leaving his family in comparatively straightened circumstances. Aside from this, I think we can all heartily unite in an earnest resolution of our deep sympathy with the widow in this her sorrow. I would ask that an opportunity be given for resolutions to be presented on this subject, and brought before the meeting at another time.

Mr. Alexander: Mr. President, it was my privilege to know Mr. Emlen Painter in the more intimate and social relations of life. I knew him from the time he first came to the city of New York. He made but very few intimate friends; he was too much engrossed in his scientific pursuits, and in his private affairs, to have the leisure, even if he had the inclination, to cultivate the social side of life.

I first met Mr. Painter at the annual meeting which was held in Providence some five years ago, and I was impressed with his strong personalty and his forceful character. He was a man of ideas, and never shrank from the defence of his convictions. He had a grand and elevated conception of his personal duties and responsibilities, and he tried to live up to them. He was a man almost absolutely without tact or policy—I hardly think he knew the terms—but he always acted without regard to prudence, hence he was not a popular man in the usual acceptation of the term. He was a man who won his position in this Society more from his earnest and honest work in endeavoring to promote its welfare than from personal popularity or attributes. My relations with Mr. Painter were almost entirely of an official character, and although we had occasion to differ—often radically—as to policy, yet in all his intercourse with me, it was courteous and gentlemanly. When this Association went to San Francisco last year, it was proposed to honor the State of California by electing some one of its delegates as the President of the Association, and when the California delegation were approached and several possible names suggested to them of their members, they said: "No, if you wish to honor California, we want you to elect Mr. Emlen Painter, for he has done more for the advancement of pharmacy than any other man upon the Pacific Slope. He is a member of our College, our Association, and representative of your Association, therefore, we want you to elect him, if you wish to honor California." Of course, the point was conceded, and Mr. Emlen Painter was elected President of this Association. After reaching the goal of his ambition, for he was ambitious to be President of this Association—yet it was an honorable ambition, and worthy aspiration of any of its members—he was permitted to fulfill his duties but a very short time. Soon after my return from California, I received a letter from Mrs. Painter, in which she stated that Mr. Painter was seriously ill with nervous prostration, produced by overwork and anxiety, and she also said that he felt very keenly some of the criticisms that had appeared in some of the drug journals. Now, while Mr. Painter was a fearless and aggressive man, he was particularly sensitive to adverse criticism, particularly where he thought his motives were impugned. Mrs. Painter also stated that an operation had been performed on his throat, which it seemed would be successful, and they had hopes that in a very short time he would be well again, and able to resume business duties. But their hopes were doomed to disappointment. He grew worse and more feeble until the end came. Emlen Painter is dead, but he leaves behind him a memory that will be a benefit and a force of inspiration to the members of this Association to emulate his example in sustaining and raising the standard of pharmacy in this country. Mr. President, I do not know that I can say more, and I would only be false to my sense of propriety if, in my tribute of respect to his memory, I should have said less of one who was my immediate successor in office.

Secretary Maisch: Professor Remington, who is present, will no doubt add some words to what has been said regarding Mr. Painter. He was a classmate of our late President, having attended the same college of pharmacy and graduated with him.

I would state that the officers of this Association endeavored to honor the memory of Mr. Painter as much as was in their power, by attending him to his last resting place. On that occasion there was present, three ex-Presidents of the Association, Messrs. Bullock, Bedford and Shinn, the Secretary of the Council, Permanent Secretary of the Association, and an old member of the Association, the President of the Board of Pharmacy of Pennsylvania, Mr. Roberts, and Professor Remington, Chairman of the Council.

Mr. Remington: Mr. President, and Gentlemen: I feel very sad indeed in the contemplation of the event we are all thinking of at the present time. Mr. Alexander has so thoroughly and intelligently spoken of my friend, that I feel that what I have to say will be but a reiteration of what he has already said.

It may be of interest to some of us to know that Emlen Painter was a member of the Philadelphia College of Pharmacy, and graduated in 1866; that Professor Sayre was also a member of the same class. After Mr. Painter graduated, he came to me as a friend—we were quite intimate—to know what he should do now that he had a diploma. I had some friends in San Francisco, and then, as now, the feeling was that young men should go west if they wished to succeed, and I gave him letters to them, advising him to go westward, and I learned, soon after, that he had established himself in San Francisco, first as a clerk, and subsequently as a proprietor. His career in San Francisco was very much the same—marked by the same strong characteristics that we have had explained here by our friend, Mr. Alexander. Emlen Painter was a man who never thought for a moment of the future. The future to him was something that would take care of itself. He was unflinching in the discharge of what he regarded as his present duty. As a boy and as a young man he was conscientious as he was in after life, noble and self-sacrificing to a degree. I rarely have seen a more sturdy character, and it gives me a great deal of pleasure, before all of you Gentlemen, who knew him so well, to say to you that in Emlen Painter's heart there was no guile. He was one of the purest men it was ever my privilege to know—and I knew him intimately, and many of the aspirations and feelings which actuated him, he freely expressed to me. He had, it is true, some ambition, but his ambitions were of the noblest kind, and the kindest feeling for men whom he thought had injured him. We have, I feel, lost a power in this Association. We have but a few men of that stamp in the world—too few entirely—and I sorrow to think that after reaching the goal of his ambition, that he was unable to see the time when he could be with us here and assume the position that I know all of us would have loved to see him filling—that of presiding over our deliberations.

The following reports were read, with the accompanying documents, and on motion were accepted and approved:

(Treasurer's Report. Supplement to the Report on Finance. Summary of the proceeds of sales of National Formulary from June, 1889, to June, 1890.)

Mr. Remington said: I think this report should not pass without some comment, as there are some very interesting figures mentioned in it, showing a state of things which is very encouraging to the work of the National Formulary Committee. It shows that there has been five thousand dollars received from the sale of that work, and sixteen hundred dollars turned into the treasury as net profit, besides giving to the pharmacists throughout the United States the benefit of the National Formulary.

Briefly summarised, the report was as follows:

RECEIPTS.

Treasurer's receipts from annual dues	$5,825,00
" " " other sources	4,686,39
Total	$10,511,39

DISBURSEMENTS.

Salaries	$2,300,00
Printing and binding	1,977,06
Other expenses	2,093,76
Total	$6,370,82

Leaving a cash balance on hand, July 1st, 1890, of $4,140,57.

Mr. Remington read the report of the Committee appointed to visit the American Medical Association: (The report stated that the Committee was appointed to visit the Association at its meeting at Newport, R. I., June 1889).

After consultation with a number of physicians, who were favorable to the establishment of closer relations between the two professions, it was deemed best to endeavor to create a friendly feeling for the movement through personal discussion, rather than through a public address, and nearly all the prominent members of the American Medical Association expressed themselves as warmly in favor of closer relations, and also in favor of the step taken by the American Pharmaceutical Association in issuing the National Formulary. The Committee reported that the American Medical Association had, at its last meeting in Nashville, established a section in Pharmacy, to have the same privileges as the other Sections of the Association, Dr. Frank Woodbury, of Philadelphia, being elected Chairman, and Dr. W. C. Ewing, of Tennessee, Secretary.

Mr. Remington: I have also in connection with this report a minute from the Secretary of the American Medical Association which I procured in order to show the American Pharmaceutical Association exactly what initial action had been taken by the American Medical Association in this matter. It is as follows:

Resolved: That the words "Materia Medica" be taken from Section first, and that the section be understood to refer to Pharmacy, to have the same privileges as other Sections of this Association.

Mr. Good moved a vote of thanks to be tendered to the members of the Committee for the good work they had accomplished.

Mr. Hallberg: I second the motion, and in doing so would like to say that I have taken it upon myself to notify all the State associations that have met during the last few months, and understand that delegates have been appointed by these organizations to be present at the next meeting of the American Medical Association.

Mr. Sheppard moved that the American Pharmaceutical Association send delegates to the next meeting of the American Medical Association.

Mr. Manning offered an amendment, that the same Committee be retained to act as such delegates.—Mr. Sheppard accepted the amendment.

Mr. Hallberg suggested that it would be well to defer the appointment of the Committee until the matter could be fully discussed, and the Committee instructed as to what action the Convention desired to be taken.

Secretary Maisch: It might be well for me to state that the reason why the Section on Pharmacy was not established by the American Medical Association last year instead of this year was, because under the By-Laws of that Association the matter had to be held over one year.

Mr. Sayre: It might be a good idea to ask the American Medical Association to send delegates to our annual meetings. What has been accomplished in that Association by us has come through the work of our members. They have established a Section on Pharmacy, through the solicitation of our Committee. Now it might be well to notify them to send delegates here. If they want a Section of Materia Medica in our Association, they will ask for it. At some future time it may be found necessary to create a Section on Materia Medica and Therapeutics, but at present I do not think there is any necessity for it. I move that a committee of five be appointed to consider the relations between the American Pharmaceutical Association and the American Medical Association.

Mr. Hallberg moved, as an amendment, that the committee of five be the Committee appointed as delegates already, which being accepted by Mr. Sayre was duly seconded and carried.

Mr. Remington: I have not received any information officially from the Secretary of the American Medical Association which would lead me to believe that this Section was intended to invite delegates from the American Pharmaceutical Association to attend the annual meetings of the American Medical Association. Mr. Hallberg, however, may have some information on the subject that I do not possess.

Mr. Hallberg: The only information I have received is from a gentleman who was requested to be present at the annual meeting of that Association at Nashville, and on his return he informed me that the Section on Pharmacy which had been engrafted in the Constitution of the Association was on the same basis as the Section on Dentistry. That Section gives every State dental association a representation of any number of delegates, usually three or five, though the number is not limited. Every State and National dental association is entitled to representation. The Section has its own autocracy. That is how I understand it.

Thy President: Until the American Medical Association is willing to recognize us in a formal manner, it would seem that no action can be taken by this body.

Mr. Ebert: I give notice of a motion to change Article III of the Constitution, by inserting after the words "Permanent Secretary," the words "and Assistant Secretary," which will lie over for one year.

Mr. Whelpley: It has been brought to my attention that the Revision Committee (Pharmacopœial) meets at this time. I move that the privileges of the floor be extended to all members of the Pharmacopœial Revision Committee who are present but are not members of this Association. The motion was duly seconded and carried.

The Convention then adjourned.

SECOND SESSION.

Tuesday Morning, Sept. 9th.

The Convention was called to order at 11 A. M. The reading of the minutes by the Secretary, of the last session, having been heard, and on motion accepted and approved, the report of the Nominating Committee was presented by Mr. Alexander, as follows:

For President, B. Taylor, Philadelphia, Pa.; 1st Vice-President, A. B. Stevens, Ann Arbor, Mich.; 2nd Vice-President, Charles E. Dohme, Baltimore, Md.; 3rd Vice-President, J. M. Good, St. Louis, Mo.; Permanent Secretary, J. M. Maisch, Philadelphia; Treasurer, S. D. Shepard, Boston; Members of Council, P. C. Candidus, Mobile, C. F. Goodman, Omaha, H. M. Whelpley, St. Louis; Reporter on the Progress of Pharmacy, C. Louis Diehl, Louisville, Ky.

On motion the report was approved, and the Secretary instructed to cast an affirmative ballot for the election of the officers named.

The Secretary read the report of the Committee on Credentials, which, on motion was approved and accepted. Also the minutes of the Publication Committee were duly accepted.

The Secretary read a list of 35 names of proposed members, who on motion were invited to join the Association.

Mr. Sheppard: I move that the amendment to the By-Laws offered by Mr. Alexander, striking out the words "who are not delegates" from Section 7 of Art. 11, Ch. 9 of the Constitution, be adopted.—Seconded and carried.

Mr. Ebert gave notice of an amendment to Chapter 8, of Art. 2 of the By-Laws, inserting on line five thereof, after the word "pain," "an initiation fee of five dollars," and then, continuing, "and the annual contribution for the current year."

On behalf of the Committee on Prize Papers, Mr. Patch reported as follows:

In regard to the Ebert prize for the best paper submitted, a question has arisen in our minds as to what the prize was to be given for. Assuming, however, that it was the intention of the originator of the prize that it should be given every year to the author of that paper which was the most original in investigation, and opened up the newest field of discovery, your Committee is unanimous in awarding the prize to the author of "The Coloring Principle of Flowers," Mr. W. T. Wenzell, of San Francisco, Cal.

On motion the report was adopted.

Mr. Eliel moved that the Chair appoint a Committee of five on the time and place of next meeting, which was seconded and carried. Messrs. Goodman, Alexander, Whitney, Sheppard, and Heinitsh, were designated as such Committee.

The report of the Committee on the President's Address was presented as follows:

Your Committee to whom was referred the President's Address respectfully report as follows: 1. We recommend that a Committee of five be appointed to draw up suitable resolutions in reference to the death of our late President, Mr. Emlen Painter. 2. That the Sections of Pharmaceutical Education, and Pharmaceutical Legislation, be combined in one. 3. We approve of the meeting of our Committee on Legislation with a conference of the State secretaries to form some plan for legislation whereby the certificates of State Boards of Pharmacy may be made interchangeable. 4. We do not approve of the plan proposed in the address in reference to electing presidents of State pharmaceutical associations, Vice-Presidents of this Association. This would require a complete change in the laws that govern our form of organization.

On motion, the report was taken up by sections.

On motion of Mr. Hallberg, the first section was amended to provide that a photo-type of the late President be included in the report of the proceedings of this year's meeting. The section was then adopted. The second, third, and fourth sections were also, on motion, adopted.

The Chair appointed as a Committee of Resolutions on the death of the late President, Messrs. Bedford, Remington, Gordon, Alexander, and Ebert.

Mr. Ebert remarked, at this point, that he thought, pending the return of the report on time and place of meeting, a discussion would be of value on the question of finance. He thought the initiation fee should be inincreased in order to enhance the funds of the Association, and that its decrease some years ago had not been a wise move. He therefore made a motion that the Association's admission fee be increased to five dollars. —The motion was seconded.

Mr. Thompson stated that as the originator of the decrease in the admission fee, he would explain that it was done with the idea that a higher fee might keep many prospective members from joining the Association; that it was better to have the co-operation of one hundred at two dollars than fifty at four dollars. He did not think, however, that it was right to charge any admission fee whatever.

Mr. King said there was no necessity for devising means of increasing the finances of the Association. He had lately discovered—though he might have known it before—that according to the By-Laws, there was a life-membership fund which, up to this time, has not been used, but allowed to accumulate, and it was also stated that it should be used for current expenses when necessary. He was in favor of reducing the admission fee of the Association to one dollar a year if by so doing the strength of the membership could be increased.

Mr. Whelpley said it hardly seemed just that any pharmacist could join the Association and take an equal interest in the property owned by it, merely by signing the Constitution, which would place him on an equal footing with the oldest member. Let those who come in later pay for the privilege. He opposed any reduction in the fee.

Mr. Ebert said he merely brought the matter up for an informal discussion. When put to a vote, if the motion were carried he would make a formal motion amending the By-Laws in the manner suggested; if not, he would not press the matter.—The question was then put to a vote, and lost.

Mr. Goodman presented the report of the Committee on Time and Place of the Next Annual Meeting, as follows:

Your Committee on the Time and Place of the Next Meeting respectfully report New Orleans as the place selected, and the second Monday in May as the time for holding same; and also present a minority report recommending St. Louis, and the time the second Monday in May.

Mr. Whitney: As one of the supporters of the minority report, I move that when this Association adjourns, it adjourn to meet in St. Louis on the second Monday in May, 1891. The reason why an earlier date has been named, is that most of the previous meetings have been held in September, when in consequence of the clerks having generally taken their vacations, the majority of the members are tired out. Another reason why that month has been mentioned is, that in September we cannot entertain you as well, owing to the exposition which is opened then, which crowds the hotels. If you come to St. Louis, we will give you as good an entertainment as you ever had, and will be glad to do all we can to gladly welcome you there. It has been the policy of this Association to visit such places as would benefit the Association to the greatest extent, and this, I am sure, will be the case if St. Louis is selected.—On motion, the report of the Committee was received.

Mr. Finlay: I wish to say a word in favor of New Orleans. The farthest South that the Association has been is Atlanta, Ga., which is now so imbued with Northern institutions that it is not so much a typical Southern city as New Orleans. There will be found delightful surroundings in the early part of the year, the beautiful flora of the South well worthy of study, and in no place will a more cordial welcome be received from the local profession.

Mr. Ebert: I concur with Mr. Finlay's remarks, and strongly urge the selection of New Orleans.

Mr. Eliel: I think the Association should take into consideration the result of choosing extreme points either to the West, East or South, as has been done in many cases, where not only time is consumed in reaching the place of meeting, but the expense is very great. In the San Francisco trip, for instance, although it was understood considerable concessions were to be obtained from the railroads, the result was very little, if any reductions were made.

Mr. Hallberg: I am strongly in favor of the selection of St. Louis. We have not been there for twenty years, and right in St. Louis we can attract a larger increase to our membership than we can at any other point.

Mr. Goodman: I move that St. Louis be inserted in this report in place of New Orleans. (Seconded).

Secretary Maisch: It has been customary in this Association to vote separately on the time and place. Merely amending one report is not understood to adopt it. It can be amended again if desirable. The time is the same in both reports.—On motion, duly seconded, the majority report was received and adopted.

The Secretary read a communication from the Secretary of the Virginia Pharmaceutical Association, in session at the Hygeia Hotel, inviting members of the American Pharmaceutical Association to any of its sessions, with all the privileges of the floor, which on motion was accepted, and a vote of thanks tendered the Virginia Association.

Mr. Washburn suggested that it might be well to alter the time of the next meeting to October, as a meeting in May would interfere with several of the State Association meetings.

Mr. Remington said that this would interfere with the attendance of the representatives of the Colleges of Pharmacy, which commence about that time.

Mr. Goodman: Speaking for Massachusetts, I can say that we have, on several occasion, altered the time of our State Association's meetings, so that they would not conflict with the American Pharmaceutical Association's meeting. I have no doubt that this could be arranged by other State associations, so that the dates would not clash with that of this meeting in the South.

Mr. Finlay: October would be an improper month to meet in New Orleans, as we never know what may happen in the summer. While we have had immunity for twelve years, we can never tell when an unlucky year may come. It is always perfectly safe before the first of June.

Mr. Remington moved that the time of meeting be changed from the first to the second Monday in May, which was seconded and carried, and the report as amended was then adopted.—The Convention then adjourned.

THIRD SESSION.

Tuesday Afternoon. Sept. 9th.

The Convention was called to order at 3 P.M., and the minutes of the last session read and approved.

The Secretary read an invitation from the Virginia Pharmaceutical Association inviting the members of the American Pharmaceutical Association to be present at a lecture to be delivered before that body by Prof. Remington, on the Metric System, at 11 A.M., Wednesday, Sept. 10th.

On motion, the invitation was accepted, and referred to the Committee on Scientific Papers.

The Convention then adjourned its general session to give place to the Section on Commercial Interests.

Section on Commercial Interests.

First Session—Tuesday Afternoon, Sept. 9th.

Mr. Eliel, Chairman of the Section, called the meeting to order, and delivered his annual address. In it he deprecated all attempts towards repealing the U. S. revenue tax.

Regarding the rapid growth of the so-called proprietary pharmaceuticals, he denounced such as a detriment to pharmacy, and recommended that a Committee be sent to the American Medical Association to ask them to co-operate and assist in checking the evil.

Regarding cutting in prices, the recommendation was made that a Committee be appointed to confer with the Wholesale Druggists' Association, and Proprietary Association, and endeavor to put a stop to it.

On motion, the address was received and referred to a Committee, on which the chair appointed Messrs. Eckford, Nattans, and Canning.

The Secretary of the Section (Mr. Smith) read his annual report, in which he referred especially to the matter of shorter hours, and urged the action of the meeting upon the subject. He referred to the Minneapolis and Ramsay County Associations' joint address (issued some time since) dealing with rate-cutting and the selling of pharmacy goods by other than drug stores at cost, recommending a system of boycotting to check it.

Mr. Seabury: At the time we had the Campion fight, there were lots of men in that plan that were dishonest, and, when I discovered that, I withdrew, and kept on my own special plan, as I always propose to do. When you talk about cutting, you may sit here until you are black in the face. You will never be able to do anything with the manufacturers, or anybody that puts up perfected packages that can be sold to any one, until you stand together like a Roman phalanx—manufacturer, proprietor, and retailer—and each for himself, and act honestly by each other. Heroic treatment should be tried. When a cutter comes into a town, let the local trade unite, and when he cuts, meet cut by cut until he gets tired of it, and that will remedy the matter.

Mr. Nattans: Isn't it a fact that at that time it was not the retailer who was at the bottom of the failure of the Campion plan? I took an active interest in that matter, and remember distinctly that it was the wholesaler, and in the very city of New York that the whole thing was knocked on the head. I think it might have been successful but for the wholesaler.

The Chairman: We have a communication from the Secretary of the Mfg. Proprietor's Association on this very subject, in respect to a letter which was written by the Chairman of this Section. In it he says:

> It has been my privilege to witness for several years the working of the several plans which have been suggested for the prevention of cutting of prices of proprietary goods, and the many obstacles which have prevented them from successfully working. It is admitted that a great majority of the proprietors and jobbers would be willing to adopt any practical scheme which would result in driving the aggressive advertising department house out of the drug business.

Unless there is any objection, this communication will be referred to the same Committee as that to which the report of the Minnesota Association has been referred.

Mr. Manning: Unless we can devise some plan wherein the proprietor, retailer and jobber will work unitedly, we shall do nothing. There is no doubt in my mind that if the Campion plan had had the united support of all three, it would have been in existence to-day, and would have been a complete success. I think the dealers themselves helped largely to down it. The time seems to have come when the three interests can unite, and some definite action be taken.

Mr. Canning: I want to say as one of the Committee appointed on this matter, that at present I see no possible way for this Committee to bring in any practical plan for its remedy. Papers and resolutions may be handed to us, but so far as I am concerned, no practical plan can be devised. Further, while I agree with many of the sentiments expressed by the resolution of the Ramsey County Association, I do not approve of the spirit of boycott it expresses; and there is the objection, that they simply say to the proprietor, "You must keep your goods from the cutter." That is easier said than done. How is the proprietor to keep his goods from the cutter, when he himself does not sell them. There are many proprietors to-day who will not sell their goods to cutters, but the goods get into their hands through a middle source. Therefore, I say, to succeed in preventing it, united action must be had. Now, I would suggest a conference on the subject between all three organizations, the American Pharmaceutical Association, the National Wholesale Druggist's Association, and the Proprietor's Association, so that some practical plan may be provided. The individual action of one interest alone will accomplish nothing, for that has been tried, and has failed.

Mr. Main: As one of the representatives of the National Wholesale Druggists' Association, I would say that it seems to me that the solution of this difficulty lies in the direction outlined by Mr. Canning. There are proprietors in this Association, and also jobbing druggists who refuse to sell to cutters. The great trouble, as Mr. Seabury says, is that the retailers of the United States are not united, and without unanimity nothing can be done. What Mr. Canning has said of the Campion plan is also true. It was not until the proprietors discovered that the retail men were supplying the jobbers in New York City and elsewhere that they abandoned the scheme, after wasting much money and incurring great ill will through the trial they had made of it.

In regard to the address of the Ramsay County Association, I want to say, that I know of one or two instances where associations have called the attention of various proprietors to the fact that their goods were in the hands of cutters, and in some instances have named the jobbers through whom they supposed supplies had been obtained. In each instance the proprietors have corresponded with the jobbers, and received the assurance in many cases that no more of such goods would be sold, and that future orders would be declined.

Mr. Nattans: There are instances where the proprietor can control his goods outside of the drug trade. One is the Earl & Wilson Co., manufacturers of cuffs and collars, which cannot be bought in any store for less than the prices dictated by the proprietor. It is strange that the retail druggist cannot be so protected.

Mr. Sayre: I would like to ask Mr. Seabury whether he knows of any instances where the heroic treatment he recommends has been successful.

Mr. Seabury: I know of one, in Bethlehem, Pa., where they tried it, also in Chicago, I believe. Perhaps Mr. Hallberg can enlighten us as to that.

Mr. Hallberg: The only plan that has been in effect in Chicago is for every dealer to join hands and fight the cutter, and hold up prices. After doing that, in three years one cutter died, one was closed up by the sheriff after having run three stores, and one had to take out a five hundred dollar liquor license because he sold liquor after midnight.

Mr. Sayre: How are they succeeding at Atlantic City at this time?

Mr. Seabury: We have been asked not to sell to certain people there, and we have agreed not to do so.

Mr. Eliel: I had the honor to represent this Association at the meeting of the National Wholesale Druggists Association, but did not receive any great encouragement from that body. The only thing they said was "Help yourselves, and then we will have to help you." The President of the National Proprietary Association said:

> The American Pharmaceutical Association is a representative body. You have some forty associations represented, so stated. Let them take united action, and send either a petition or else representatives to our meetings authorized to speak for the associations as well as the A. P. A. and we will comply with whatever reasonable requests may be made.

I think it can be done by united action, and that it lies within our own hands to prevent cutting if we ask the proprietor to shut off the supplies. There is no speculation in proprietary goods. The price is the same the year round. Why can't we cut off the cutters? It is the rebate they obtain which enables them to be cutters. Cut off that, and the cutter will cease to exist. I would like to hear from Mr. Hallberg how the Chicago plan originated and how it was worked.

Mr. Hallberg: I am unable to say whether this plan contains the germ of preventing cutting of prices, but it does enable anyone who participates in the scheme to buy goods at the very lowest figure. It is simply a co-operative plan. It was first in operation about two and a half years. Ten proprietors, representing fifteen stores, form an association. One man does the buying. Weekly or semi-monthly meetings are held in order to make up lists of goods that are required, of such staple articles as they sell pretty largely, and so obtain the best discounts. The buyer receives and distributes the goods. The cost of distribution on this plan will not exceed two per cent., and as an average discount of ten per cent. is secured thereby, a net profit of eight per cent. is obtained.

The scheme worked so well for two years and a half that it was finally extended to take in about 35 stores. Now, a difficulty arises, that while it was possible for one man to buy and distribute for ten stores, it is impossible where 35 stores are concerned. A plan will shortly be perfected by which this may be accomplished. The great merit of the scheme is that the druggist is enabled to buy his goods as cheaply as possible. Another advantage is, that if a party has a large quantity of cigars for sale, for instance, at a very low price, an organization like this can purchase the lot. The organization has often bought as much as 20,000 cigars, thereby saving fifty per cent. Another feature is, that this association has undertaken to manufacture its own proprietory goods. They have now a list of about a dozen preparations, among which is a blood purifier, cough syrup, blackberry balsam, liver pills. They have even invested $250,000 in soap mills for the purpose of manufacturing a line of soaps of their own, which prove profitable, I presume. An extension of the association is contemplated, which will finally embrace the larger number of Chicago druggists, each one handling the Association's preparations, which will finally take in all the preparations required to supply the ordinary wants of the community in the way of domestic remedies, and a great demand will undoubtedly be created for these goods. It is intended to extend this plan not only in the city of Chicago, but through the State of Illinois, and even beyond that in course of time.

Mr. Williams: Mr. Eliel has stated that the rebate plan is the cause of the cutting. He is mistaken, I think, for before the rebate plan was ever heard of, cutting existed in the United States. It is impossible to organize the whole trade of the country. By the failure of the Campion plan, it has been shown that such extensive organization will not succeed. The best plan I have yet heard of is that described by Mr. Hallberg, which is in operation in Chicago. Try and adopt such a plan locally and it will soon put an end to the trouble.

Mr. Ebert: Mr. Hallberg has failed to give the real basis on which the druggists of Chicago are protected against cutters. The way it was done was this:

A few men in one ward came together, and said: "We in this ward will not sell goods for less than their market value, or regular retail value," and they adhered to it. They were the nucleus. The movement spread over the city till nearly all the principal druggists in the city united and formed the Chicago Retail Druggists' Association. There are thirty-four wards in Chicago. Each ward came together and formed a central organization, formed a Constitution and By-Laws, elected a President, Secretary and Treasurer, and a board of three Directors; the dues were fixed at one dollar a year. Every ward was organized in this way. They were united with the central organization, to which the ward associations have the privilege of sending one delegate each. That organization meets once a year. The ward organizations meet once a month. This organization was effected some four years ago, and to-day there is not a cutter in Chicago, outside of the department stores. According to our arrangement, any complaint as to rate cutting is made by the aggrieved party to the ward committee of three appointed for that purpose. They investigate, and take measures to prevent it if necessary. If another party in an adjacent ward causes the trouble, complaint is made to the directors of the complainant's ward, who notify the directors of the offender's ward.

Mr. Seabury: One great trouble is that, although the druggist may sell as cheap as the department stores, people will not go to him as they do to such stores, as they have an idea they can get better bargains. Sometimes an article is advertised for sale by the department stores which they do not keep, merely for the purpose of attracting the customer, and when the article is asked for another is offered in its place.

It was here moved that the question be referred to the Committee on Chairman's Addresses, which was seconded and carried.

The Section then adjourned.

Second Session—Tuesday Evening, Sept. 9th.

The Section was called to order at 8.30 P. M., the Chairman, Mr. Eliel, presiding.

The following nominations of officers of the Section for the ensuing year were made:

For President, H. J. Canning, of Boston. (Mr. Redsecker moved that the nominations be closed, and that Mr. Canning be elected by acclamation, which was seconded and carried.) For Secretary: W. M. Dewoody. (On motion of Mr. Whelpley, Mr. Dewoody was elected by acclamation.)

Remarks on subjects of interest to the Section being invited by the Chairman, Mr. Ebert said:

One of the causes of the small attendance at State Association meeting, is due to the fact that instead of discussing practical subjects of value to the retail druggist, and by combining certain social features, which would make the meetings attractive, the time is consumed in reading long winded scientific papers, which are usually buried in the proceedings and forgotten.

Mr. James (of St Louis): I agree entirely with the views expressed by Mr. Ebert. This matter of scientific papers is killing the State associations. I instance the Missouri State Association, whose meeting I attended recently. Four hundred members were present on that occasion with their wives and families. Whenever scientific papers were read—and these were usually of a very weak character—the audience would thin out, leaving some twenty members sitting there posing as scientists. The rest were enjoying the only holiday in the year which they got. The papers, as Mr. Ebert says, will be printed in the proceedings. If anyone is interested in them they will be found there. Therefore, the social and business features should be the principal aim of these associations, for the purpose of rendering them popular, and making them a lasting success.

Mr. Finlay: I cannot agree with the sentiment that the scientific features of such meetings should be subordinate to the social. No practical good can be accomplished by simply meeting for social pleasures. All civilization has been advanced by science, and scientific discovery, and so with the advancement of pharmaceutical associations. If you throw aside their scientific aspect, I predict their death.

Mr. Hurty here offered the following report of the Committee appointed to consider the President's address:

Your Committee to report on the Chairman's address beg leave to reports, as follows: As to the first suggestion of a conference with the American Medical Association on the prescribing of pharmaceutical preparations, the Committee suggests that the best results may be reached by individual work, and it is suggested, with deference to the opinion of the Chairman, that it is the opinion of the Committee, for the simple reason that we have tried several times to have similar conferences with the medical fraternity, and have invariably met with unsatisfactory results. More can be done by individual work. The pharmacist can do more in his own neighborhood, with his own physicians, than by attending conferences, which would amount to nothing.

The Committee recommends as to cutting of prices of patent medicines that a conference be held with a delegation of the National Association, and the Proprietor's Association, and that a committee of three be appointed to represent this Association at such conference

The Committee agree with the recommendation of the Chairman relating to mutual insurance, and recommend that a committee of five be appointed to bring forward a feasible plan, to be submitted at the next meeting.

On motion, the report was received for consideration.

Mr. McIntyre: I think that the Committee has not, perhaps, given the first section mature consideration. We have succeeded in getting the American Medical Association to listen to us, and in the Pennsylvania Pharmaceutical Association I know that the Committee having this matter in charge has been largely guided in the hope that this Association would take some action looking in the direction of getting a more definite view of what the medical people consider as medicine. It is felt that the law has given a standing to ideas in regard to the practice of medicine which are entirely opposite to each other, and that the continual supplementing of one class of medicines by others leads to confusion. In the strength of tinctures, for instance, of many manufacturers, there is a variation when a new one is introduced by any one firm, and a physician prescribing such a tincture may fail in getting the results he desires.

Mr. Eliel: In regard to the first item, as to checking the use of the so-called pharmaceutical preparations, I would say that in some cases the formula is whispered into the ear of the doctor, but put on the package in a way that no pharmacist can put it up.

Mr. James: As a member of this Association, and a practicing physician, I think Mr. McIntyre's words are entitled to weight. I know that physicians are more and more inclined to listen to the advice of the druggist, and I know also that there is a growing disposition for conferences for an understanding with them.

Mr. Redsecker: I have had some experience in the matter under discussion. I have taken to fighting not only patent medicines, but more particularly those preparations that are allied to them. I mean to say that we can make just as good preparations as those of the proprietary manufacturers, and the result has been that we have driven out of the market, as far as we are individually concerned, "Bromidia," and "Listerine," and "Fellows' Syrup of Hypophosphites," and others, which we make ourselves, and the physicians prescribe them.

Mr. Alexander: While I think it is a very good thing to fight the fire as Mr. Redsecker has done, doesn't such a procedure increase the number of patent medicines? Does he give his neighbors his formula, so that when a physician prescribes his preparation he can have it put up at any store in his place?

Mr. Redsecker: I should state that we use the formulas of the American Pharmacopœia. I have given the formulas of a number of our preparations that were not published, to inquirers.

Mr. James: I wish to emphasize my statement that there is not among physicians that antipathy to learning that most druggists seem to think there is. The great trouble is, that the matter of the National Formulary has not been properly brought before them. The only practical offer to get them acquainted with this, I believe, has been made by Professor Hallberg, of Chicago. I believe when the matter is properly presented they will be glad to avail themselves of its advantages.

Mr. McIntyre: A thought that has not been expressed yet is this: My idea is, that while we have a Pharmacopœia and a National Formulary, and have all been taught materia medica, pharmacy, and chemistry, very few of us have been taught therapeutics, and, therefore, I hardly think we are competent to deal with this matter in some respects. A good idea would be to induce the American Medical Association to appoint a man like Mr. Diehl to outline a complete system of medicines for the medical profession.

On motion of Mr. Nattan, the recommendation (first) of the report was adopted.

The Secretary read the second section of the report.

Mr. Seabury: We spent a good deal of time this afternoon on the question of how to put a stop to cuttining, and the various questions which entered into its prevention. We have a gentleman here to-night who has been engaged in that work in Canada. I have pleasure in introducing Mr. Clark, of Ontario, Canada, who is a delegate here.

Mr. Clark spoke as follows:

I was very much interested in the remarks that were made by Mr. Hallberg, and one or two other gentlemen. There was a good deal of practical information given to the Section by this gentleman. I also approve strongly of the remarks made by Mr. Ebert. In our city we suffered from rate-cutting until about 1884, when business had become so demoralized that we were forced to form a local organization, which we did in such a way that it would stick. We prepared a constitution and by-laws that took in every man except the one who wanted to take advantage of his neighbor; in six months he was glad to come before the Association, and agree to live up to its requirements. From this one organization we have now ten in the Province. We meet once a month, and have a regular form of business. We do not forget the social side. We meet in general session once a year. We do our utmost to create a spirit of harmony among neighbors in trade, and with very great success. In an Association where members are suspicious of each other, no good can be accomplished. You cannot do this in an organization of twenty or thirty thousand druggists, but you can do it in small organizations, where interests are identical.

On one occasion a manufacturer of proprietory goods cut rates, and on being requested by the association to end it, and prevent his goods getting into the hands of rate-cutters, intimated that he would run his business to suit himself. Thereupon he started sending out circulars, offering these low rates. Unanimous action was taken, and whenever his goods were inquired for at the druggists, the customer was informed that they were not to be had; they were not recommended. The result was his trade dropped off to such an extent that he became willing to do the right thing, and come to our terms.

Our association has had another beneficial effect, in the matter of legislation. We found in 1881 that it took nine years to get an amendment to the Pharmacy law passed by our Parliament. In 1889 an amendment was proposed and passed in six months, owing to our strong representation.

Mr. Nattan moved the adoption of the third recommendation, which was seconded and carried.

On further motion, the report was adopted as a whole.

Mr. Eliel here introduced the new Chairman of the Section, after thanking the Section for the assistance rendered him during the past year.

Mr. Canning, after thanking the Section for the honor of election, said that he hoped during the coming year some feasible plan for preventing rate-cutting would be devised, but he was of the opinion that only united action on the part of the three interests represented by the manufacturer, jobber, and retailer would secure this end.

Mr. Redsecker moved a vote of thanks be tendered the retiring Chairman of the Section.—Seconded and carried.

Mr. Seabury moved that the Section adjourn, to meet in New Orleans on the second Monday in May, 1891, which was seconded and carried. The Section then adjourned *sine die*.

FOURTH GENERAL SESSION.

Wednesday Morning, Sept. 11.

The Convention was called to order at 10 A. M. The Permanent Secretary read the minutes of the last general session, which, on motion, were approved.

A communication was received from the Chicago College of Pharmacy, introducing its members to the Association, as delegates. Also a telegram from the Kings County Pharmaceutical Society, sending congratulations to the Association, which, on motion, were placed on file.

Mr. Ebert inquired whether the Kings County Pharmaceutical Association was in session, and being informed by the Secretary that it was, moved that the message be acknowledged, which motion was seconded and carried.

The Secretary of the Council presented sixteen names of proposed new members, who, on motion, were invited to join the Association.

On motion, the general session adjourned, to give place to the Section on Scientific Papers.

Section on Scientific Papers.

First Session.—Wednesday Morning, Sept. 10.

The Chairman, Mr. Whelpley, on calling the Section to order, requested Professor Stevens to act as Secretary *pro tem*, the Secretary being absent.

The Chairman then delivered his annual address. He spoke of the practical value of the Section, and hoped that no paper would be referred without discussion.

Most authors who want to present papers prefer to have them printed before the meeting. It is a good plan, as better copy is produced in the reports. If that cannot be done, papers should be type-written.

A request which has been made to authors of papers to prepare a synopsis in advance has not met with a general response. In presenting papers to the Association, the reading of such a synopsis not only saves time, but gives better opportunity for discussion.

Some contributors also fail to understand that a paper becomes the property of the Association as soon as it is received by the Section, and that the author loses the privilege of publication elsewhere. Another point is the presentation of papers which have been previously read and accepted at State Pharmaceutical Associations. A subject can be discussed at more than one Association, but papers which have already been offered at another Association should not be presented to the American Pharmaceutical Association. All papers submitted to this Section must be especially prepared for the Association.

Last year a recommendation was made that questions be presented to the A. P. A. for discussion at this Section, and resulted in only two being offered.

A committee might be appointed early in the opening of the session to solicit queries from members present at the Convention, and report the same to the Chairman of the Section on Scientific Papers within thirty days after the adjournment of the Convention.

Professor Remington then moved that a committee be appointed to report on the address of the Chairman, which was seconded and carried, and Messrs. Remington, Uhlich and Sheppard appointed.

The nomination of Chairman and Secretary for the ensuing year were then taken up, the election to take place after the opening of the next session, when further nominations could be made, if desirable.

Mr. Remington nominated, as Chairman, Mr. E. L. Patch, of Boston. Mr. Ebert nominated Mr. H. Hurty, of Indianapolis, as Secretary. Mr. Behrens nominated Mr. Hallberg, of Chicago, as Secretary.

A paper entitled "A Review of the Various Methods of Percolation," by J. W. Eckford, was read.

Mr. Shinn: I am compelled to criticise the statement that it is more economical to purchase the tinctures and fluid extracts from the manufacturers, as even if the pharmacist makes only a small quantity of the products, he will find that he can save at least 50 per cent., besides producing a better article, and knowing exactly what he dispenses.

Mr. Lloyd: The writer of the paper states that the manufacturer of extracts and tinctures for the jobbing trade requires a more complicated and expensive apparatus than the average retail pharmacist. I believe that simple percolation is the method adopted by manufacturers universally. The ordinary percolator is used, and when they need quantities of 100 or. 2,000 pounds it is the only practical method.

Mr. Schlaepfer: In hastening the operation of percolation by pressure, what you gain in time you lose in strength. If the liquid is caused to pass rapidly through the mass of the percolator, it will not have time to take up the active properties thoroughly.

Mr. Markoe: I agree with that. Most experienced operators will admit, on consideration, that percolation extraction of the drug is really a process of dialysis, that the vegetable cell is really a dialyzer, the cell wall being a septum, and you have to give time for the menstrum to penetrate it, to dissolve the materials. When this process has taken place, you have the presence of a more or less saturated solution in the cell which must be pushed out by new menstrum. On the contrary, if you do not give time, you simply exhaust the outer portions, and do not reach the inner portion of the cell. I recollect a case in point, where I had an argument with a manufacturer who was making fluid extracts in this way, and it proved that I was right; I took the mass left, passed it over again, and made a very good extract.

Mr. T. J. Milner presented a paper on "The Fluid Extract of Ipecac."

The Section, at this point, adjourned, to hear the address of Professor Remington on the Metric System.

At the termination of the lecture, a paper entitled "The Constitutional Obligations of Congress Regarding Weights and Measures," by Oscar Oldberg, was presented and read.

Professor Sayer read a lengthy synopsis of a paper on "Loco Weed," in which he detailed a number of experiments, which had been made in Colorado and New Mexico, with a view to discovering the nature of its poisonous properties, if any existed.

Nothing definite has yet been ascertained as to whether such poisonous qualities are contained in the plant. This refers to the poisoning of cattle and sheep on our western praries. What is the cause of the so-called locoism? Locoism, briefly described, is a demented condition into which the animal gets, which is attributed to a plant called loco, a Spanish word, meaning "crazy." The plant has been fully described in a former paper.

At this point, the Convention adjourned.

Second Session—Wednesday Afternoon, Sept. 10th.

Called to order at 3 P. M. The election of officers for the ensuing year took place, Mr. Patch, of Boston, being elected Chairman, and Mr. Hallberg, of Chicago, Secretary.

A paper by Dr. Adolph Tsheppe, entitled "Albuminate of Iron and its Preparations," was presented, and read.

Dr. Eccles read a lengthy synopsis of a very lengthy paper on "The Action and Properties of Pepsin," accompanied by an exhibition of specimens, and certain experiments, showing the cause of precipitation.

In this paper the Doctor claimed that there was not yet a perfect pepsin on the market, that the article was a very variable quantity, and that, briefly described, the best pepsins were a mass of foreign substances with a few grains of real pepsin in them. The therapeutic value of the pepsins was very uncertain, as shown by the experiments he detailed, in connection with which he mentioned the product of certain manufacturers.

At the conclusion of the presentation of this synopsis, Messrs. Fairchild and Tsheppe strongly criticised the remarks of the author, and showed that some of the experiments exhibited were very illogical.

Mr. Seabury: I make a suggestion that the Publication Committee confer with the author, of the paper, and have the different samples numbered, so that any investigator who wants to continue the experiments can communicate with Doctor Eccles and get the names. This should not appear in the report. Seconded and carried.

Mr. Remington presented the report of the Committee on the Chairman's Address, which unanimously endorsed the recommendations therein made. On motion, the report was approved, and accepted.—The Section then adjourned.

Third Session—Wednesday Evening, Sept. 16th.

Owing to the large amount of unfinished business remaining, the Section held an extra session, meeting at 3 P. M.

Dr. Seward W. Williams read a paper entitled "Belladonna Plasters."

Mr. D. L. Haigh presented a lengthy synopsis of a paper on "Aduterations of Oil of Rose," in which he stated that from a number of experiments he found it impossible to obtain a pure article.

In experiments made on a number of samples obtained from the Kasinlik district of Turkey, and, through Shimmel of Germany, of the native roses of that country, it is found that either oil of copaiba, or ginger grass, was used generally as an adulterant, besides others in smaller proportions. The oil from the north countries is always found to contain a greater percentage of stearoptene than that from southern countries. In assaying the oil for ordinary purposes of perfumery, it is necessary to take out all the stearoptene, and if it contains 40 or 56 per cent. the loss is great. The French oil is stated to be the only pure oil found on the market. This is oil of rose made in the Kassinlik district, and, having its first market in France, the French take their choice of this oil. The French also make an oil which, while claimed to be free from adulterant, was found to be quite high in stearoptene, and, like certain of the German oils, was adulterated with rose geranium and polygonium. The oil is not adulterated in this country, but by the manufacturers abroad, who distil the adulterant with it. The chief adulterant is oil of copaiba, which cannot be distinguished by odor. Ginger grass is the oldest adulterant used. The oil is also adulterated in the Turkish districts where it is produced, and it is only by having agents on the spot, and using extreme care, that dealers can prevent this.

"Utilization of the Soda Products of Kentucky" was the title of a paper presented by Dr. Burnham.

Mr. Whelpley presented a paper on "The Preparation of Syrup of Tolu," by B. Traverse, of Saybrook, Ill., in which it was claimed that, by the formula given, a syrup could be made that is better than that by the official process. The formula is as follows:

Balsam Tolu	℥ iss.
Alcohol	℥ ii.
Sugar (cut loaf)	℥ xviii.
Water, q. s. ad ℥ xxxii.	

The MS. copies of papers on "Economy in the Preparation of Iodoform," and "A Pharmaceutical Test of Iodoform," by Mr. S. H. Boyce, were presented, and referred to the Publication Committee.

Prof. Maisch presented a paper on "The Ethereal Oil of the Polygala Species."

Mr. F. A. Thompson presented a paper entitled, "What are the Medicinal Qualities and Purity of Teraben in the Commercial Article."

A paper entitled "On the Emetine Valuation of Fluid Extract of Ipecac," was presented by Mr. W. Simonson. The Section thereupon adjourned.

Fourth Session—Thursday Morning, Sept. 11th.

Mr. Connor presented and read a paper entitled "Pharmacists as Food Inspectors."

Dr. H. H. Rusby read a paper on "Cascara Sagrada and Its Allies," accompanied by an exhibition of the barks, leaves, etc., of the species.

A short paper on "The Preparation of Citrate of Magnesia," by Mr. Stevens, of Brooklyn, was read.

Papers entitled "The Florida Phosphate Fields," by H. Robinson, M. D., and "Allotropy of Silicon," by Henry C. Cushman, were presented without reading.

The new officers of the Section were then installed.

Secretary Hallberg, in acknowledging the honor of election, stated that Professor Patch, the newly-elected Chairman, who was absent, had requested him to name the following Committee for the Section during the year, and confer with members with reference to receiving papers and queries for discussion in the Section: New York, Dr. Eccles and Dr. Forrest; Baltimore, Messrs. Dohme and Cushman; St. Louis, Messrs. Whelpley and Good; New Orleans, A. L. Metz; Wisconsin, Adam Conrad; Cincinnati, Messrs. Lloyd and Simonson; Boston, G. R. Botell; and as associate of the Committee, J. R. Tucker, of Boston.

Prof. Maisch moved a vote of thanks be tendered the retiring officers, when the Section adjourned.

Section on Pharmaceutical Education and Legislation.

Thursday Evening, Sept. 11th.

The Section was called to order at 8:30 P. M.

Mr. Bedford, Chairman, read the Annual Address, which was referred to Messrs. Shinn and Canning as a Committee for consideration.

Dr. Henry H. Rusby presented and read a paper entitled, "How May Pharmaceutical Education be Made Practical and Adapted to the Practice as well as the Theory of Pharmacy?"

In botanical lectures at pharmaceutical colleges, better results could be obtained by the exhibition of actual specimens to students than by illustrating by means of diagrams or with lantern slides. By the former method, the students gained a practical idea of the structure of the plan, while by the latter only an ideal impression was gained. This was, of course, an expensive method, but by proper care of the specimens, the cost would be minimized, and would pay in the value of the results obtained.

Dr. W. Simon read a paper entitled "How May Pharmaceutical Education be Made Practical and Adapted to the Practice as well as the Theory of Pharmacy."

Some remarks followed, the sentiment being expressed that no uniformity could be secured among pharmaceutical colleges in requiring a fixed standard of preliminary education by students for admittance, as the manner in which such colleges were organized varied too widely to permit of such an arrangement. It was freely expressed that it was better for the student to have had a practical experience of one or two years in a good drug store before entering college. In that way he would better appreciate the theory of the practical matters which he had learned. It also prevented any misconception as to the real status of the drug business in the mind of a prospective student, so that if he had mistaken his calling, he would discover it before he had incurred the expense of a course at a college of pharmacy.

Mr. Stevens said that the recommendation had been made that two or more years' experience in a drug store should have some weight in regard to the standing of students, and the granting of certificates. That was not practicable, because, in some stores where manufactured preparations were used exclusively, the clerk would gain but little knowledge of their properties, and not such as would be acquired in a store where a different plan was followed.

Some papers not presented at the Scientific Section were distributed, viz:

"Pseudotsuga Douglasil, *Carriere*, as a Substitute for Quercus Suber" by A. O. Ingalls.

"What Amount of Sand is Present in Commercial Assafœtida," by W. A. Puckner.

Mr. W. H. Whelpley presented a paper entitled "Synopsis of a Course in Microscopy for Pharmacists."

Mr. H. M. Whitney, of Lawrence, Mass, presented a short paper entitled "Suggestions as to the Most Practical Method of Conducting Examinations."

On motion of Mr. Sheppard, the Section proceeded to ballot for officers for the ensuing year.

Mr. Remington nominated Mr. Simon as Chairman; Mr. Hallberg nominated M. F. C. Hogan, of Illinois, as Secretary.

On motion the nominations were closed, and the Secretary instructed to cast the vote of the Section for the nominees presented. The new officers were then introduced to the meeting, and responded briefly, in acknowledging the honor of election.

Mr. Hallberg moved the usual vote of thanks, when the Section adjourned.

FIFTH GENERAL SESSION.

Friday morning, September 12th.

The Convention was called to order at 10:00 A. M., and the minutes of the last general session read and approved.

Mr. Alexander presented a supplementary report of the Committee on Nominations, placing in nomination Mr. A. K. Finlay, of New Orleans, as Local Secretary of the Association, which was adopted.

Mr. Sheppard made a motion that the Local Secretary be empowered to make all preparations for the next annual meeting, with authority to appoint his associates on the Committee, which was seconded and carried.

Mr. Remington offered the following resolution, which was seconded and adopted.

> *Resolved*, That a commitee of five be appointed with power to act on and consider the resolutions of Professor Oldberg (contained at the end of his paper on the Metric System), and report what action this Association should take in endeavoring to secure the adoption of the Metric System by the Government.

Mr. Hallberg suggested that a Committee on Transportation be appointed, which would have its members located in the various large cities, so as to assist local members of the Association in getting reduced rates to the annual meetings, etc., and stated that he would make a motion that the By-Laws be changed next year, to contain a provision to that effect.

Mr. Barnum: I think I can pledge the railroad I am connected with, the L. & N., whose territory covers New Orleans, that the delegates to the Convention there shall not only have the cheapest rates, but the best accommodation that the road can give them.

Mr. Hallberg offered the following resolution:

> *Resolved*, That it is desirable that the International Pharmaceutical Congress may meet in Chicago in 1893; that a committee be appointed to report upon the matter at a future meeting, and that a hearty invitation be extended to the pharmacists of all countries.

Mr. Canning announced that at the session of the Commercial Section, the following Committee on that Section was appointed: S. A. D. Sheppard, Geo. W. Voss, L. Myers Connor. Also the following Committee to confer with the Proprietor's Association, and the National Wholesale Druggists' Association: W. S. Thompson, Washington; J. A. Milburn, Washington, D. M. R. Culbreth, Baltimore. And as a Committee on Mutual Insurance, Messrs. H. H. Whitney, Mass.; L. Eliel, Ind.; Louis Dohme, Md.; John Ingalls, Ga., and D. L. Haight, Mo.

Mr. Connor: To illustrate the hospitality of our people in Texas, I wish to present the following telegram I have just received:

> The citizens of Dallas, Texas, extend to this Association a most cordial invitation to hold their next meeting in this city. Will give them a royal reception. (Signed the Mayor and President of the Board of Trade of Dallas.)

On motion the message was received, and the thanks of the Association tendered to the representatives of Dallas.

The President then appointed Messrs. Alexander and Shinn a committee to wait on the new officers and conduct them to the platform.

Mr. Alexander in introducing the new President, Mr. Albert B. Taylor, of Philadelphia, stated that he was one of the two surviving members of the first Convention, which met in 1852, and might fairly be considered as one of the fathers of the Association.

Mr. Taylor, who was received with great applause, said:

Gentlemen, members of the American Pharmaceutical Association: I find myself unable to express my feelings for your generous reception. I thank you most sincerely for your kindness in calling me to preside over your deliberations, and can truly say I esteem it the highest honor I have ever received. I am proud to say that I have been a member of this Association from its formation in 1852 to the present time, and have always taken a warm interest in its success and advancement. I have always been willing to contribute my small share to the common stock, and while accepting this high and honorable duty I do so with great diffidence. I promise you, however, that I will use my best endeavors to facilitate the business, and advance the interests of this Association.

Mr. Shinn, Vice-President, C. E. Dohme, Second Vice-President and J. M. Good, Third Vice-President, were next installed, and responded briefly, thanking the Association for the honor conferred.

Mr. Alexander, in speaking of the re-election of Permanent Secretary Maisch said that it was unnecessary to introduce him.

Prof. Maisch added:

I think, Mr. President, and Gentlemen, that it was at your meeting in the year 1857 that I first attended a convention of this Association. I was then a younger man than I am at the present time. They put me to work at once in various directions, and finally in 1865, selected me, in Boston, as Permanent Secretary. I have held that place ever since. Notwithstanding the rejection of my recent resignation by this Association, I assure you that I will discharge the duties of the office with the same fidelity that I have done in the past.

Mr. Simmons: It is very rarely that we have elected two such veterans to office in this Association, and I therefore move that we give three rousing cheers for the veterans from Pennsylvania. The convention gave a hearty response.

Mr. S. A. D. Sheppard, as Treasurer, was introduced, and, in thanking the Association for his re-election, spoke of the very satisfactory condition of the finances of the organization, remarking that one of the most gratifying features was the membership fund, which showed that a majority of the members had already paid the dues for 1890.

Mr. Finlay, elected as Local Secretary for New Orleans, being introduced, said:

I thank you for this evidence of good-will extended to me, and can assure you that I will do everything I can to make the meeting of next year a success, and, having the best material to work upon, I know that the conclusion of the Association will be, after having visited our city, that it was good to be there. I can guarantee you a warm welcome.

Mr. Remington read the following communication from the President of the Section of Pharmacy and Materia Medica of the American Medical Association:

In conformity with the action of the American Medical Association at Nashville, your organization is invited to send delegates to attend the meeting at Washington in 1891. I hope that your Association will be able to send twenty-five or thirty members who will all promise to contribute to the proceedings of this new Section and make it a great success.

He offered the following resolution:

Resolved, That in response to the invitation of the President of the Section of Pharmacy and Materia Medica of the American Medical Association, that there be appointed by the President of this Association twenty-five members who shall serve as delegates to that Section at its next meeting, in Washington, in 1891.

Mr. Haight inquired whether the representation from the American Pharmaceutical Association would prevent delegates attending from the State Associations, as these organizations had expected to send representatives to that Association.

Mr. Remington replied that he was unable to state at the time whether the President of the Section had the power to invite delegates from the State Associations, but he would at an early date confer with him, and, if he was at liberty to do so, he would recommend that the Secretaries of the State Pharmaceutical Associations be addressed, and invited to send delegates to the meeting of the American Medical Association.

On motion of Mr. Bedford, it was provided that the Committee appointed have power to fill any vacancies occurring in their number.

Mr. Simmons moved that as a Committee of five had already been appointed to attend the meeting of the American Medical Association, that twenty additional names be added to that number as the proposed Committee. The motion was seconded and carried, and Mr. Remington's resolution adopted.

Mr. Good moved that a vote of thanks be tendered the Local Secretary and Committee of Arrangements for their excellent work in providing for the entertainment of the Association, to the members in Virginia, and to Lieut. Col. Frank, of Fortress Monroe, which was seconded and carried.

Mr. Diehl was introduced, and thanked the Association for his re-election as Reporter on the Progress of Pharmacy.

On motion of Mr. Markoe, a vote of thanks was tendered the retiring officers of the Association for their valuable services during the past year.

The minutes of the last session were then read and approved.

Mr. Remington moved that:

Inasmuch as the Association was not informed of the time of the meeting of the American Medical Association, and as it was important that the strong representation should attend such meeting, which would decrease the attendance at the next convention, if the dates of meeting were the same, that power be given the Council to change the time of meeting of the A. P. A., in the event of a clashing of dates.

Which was seconded and carried.

Mr. Ebert: I move that we now adjourn and stand adjourned to meet in the City of New Orleans on the first Monday in May, 1891, unless the Council orders otherwise.

The motion was seconded and carried, and the Convention adjourned.

BOTANY AND MATERIA MEDICA.

MONTHLY REVIEW.

Readers of the BULLETIN will remember an illustrated account of *Capparis oleoides*, Burch., which appeared on page 41 of our February number, 1889, in which the statement was discredited that this plant was the origin of the drug Simulo, then being recommended for the treatment of epilepsy. We now note that this judgment is confirmed by Prof. Baillon, of France. Incomplete specimens of the Simulo plant have been received and described by Dr. Poulet, of Plancher-les-Mines, and are evidently quite distinct from the abovenamed species. What species they do belong to cannot be determined from the imperfect description, there being a great variety of these plants in Peru and Bolivia, the reported habitat of the drug. We shall endeavor to obtain specimens and submit a determination later. The drug is invested with a fresh interest by the strong recommendation of Dr. Poulet of its use in salpingo-ovaritis. He states unqualifiedly that it causes resolution of the tumor. If subsequent experience should confirm this opinion, then there is no reason why it should not act similarly in resolving other classes of tumors, and a wide field of usefulness would be found for the article.

Dr. C. H. Hains, Auckland, New Zealand (*Therapeutic Gazette*, p. 451) expresses the opinion—which he, however, admits is based on insufficient evidence—that *Cascara Amarga* is almost a specific in the ulcerations of tertiary syphilis. Eight cases are reported in confirmation. Through an oversight the word "Amarga" is omitted from the title; but it is not to be overlooked that this is not *Cascara* (by which term the Cascara Sagrada is generally understood), but the Cascara Amarga.

In a lecture delivered at the Cochin Hospital, Paris, and reported in the *Therapeutic Gazette*, July, p. 433, Dr. Dujardin-Beaumetz discusses those diuretics known as "tensors," at the head of which he places digitalis, and the tincture prepared by maceration in preference to other preparations. Concerning digitalin he notes the distinction between the German product, soluble in water, and the French, insoluble in water but soluble in chloroform. Of the active principles he prefers the crystallized digitalin of the Codex, which must be given very cautiously, ¼ to ½ a milligramme ($\frac{1}{64}$ of a grain) in the twenty-four hours. Almost on a par with the above he places Strophanthus, which has the advantage of producing an immediate action, which it takes two or three days for digitalis to accomplish. Sparteine, adonis, and convallaria rank second in his opinion. He attaches great value to caffeine as a member of this group, especially as it is suitable for hypodermic use in the formula:

℞ Pure Caffeine,
Benzoate of sodium, } āā .. 2 grammes.
Boiled water .... 6 grammes
M. A syringeful to be injected two or three times daily.

Theobromine is mentioned in connection with caffeine, and the close relationship chemically and the similar therapeutic action of the two are pointed out. Lastly he considers the strong diuretic effect of the sugars, and recommends a syrup made of 750 grammes of solid purified glucose to 250 grammes of water, five tablespoonsful to be given daily; or 500 grammes of lactose in ten powders—two powders, each dissolved in a quart of water, per diem.

In the *Medical Age* for July 10th, p. 294, occurs a lecture by Prof. Jules Simon entitled the *The Physiological Action of Alcohol*. The chief theories with regard to the action of alcohol are reviewed and some practical notes on the selection of a desirable article are given. Prof. Simon confirms the statement of Geitwny that alcohol is an aliment, and he finds it in his own practice of the greatest aid as a supporter of the system during the progress of exhausting diseases. In moderate doses it is a powerful stimulant of the digestive functions, while in larger doses it disturbs and even arrests them. The question, therefore, of the advisability of its use is largely one of dosage, and it is not to be forgotten that that which is a moderate and wholesome dose for one individual may be decidedly injurious to another. Upon the circulation and the respiration the same difference between the actions of large and small doses is noted. Its action in diminishing the quantity of urea and other solid principles of the urine must be noted as a contraindication in many cases. Nowhere else is the difference of its action in large and small doses so notably illustrated as upon the nervous system. The central temperature of the body is invariably decreased by the use of alcohol and in an increased degree with the amount imbibed.

An important contribution to the literature of the medical botany of North America is a paper originally read before the Alabama State Pharmaceutical Association, and now reprinted, by Dr. Charles Mohr, of Mobile, Alabama, entitled "*The Medicinal Plants of Alabama*," being a "Systematic list of the medicinal plants occurring within the limits of the State, with notes on their distribution and proper time of collecting the parts used." Dr. Mohr divides the State into three districts, namely, the northern, central and southern. The northern district is the mountainous region of the Tennessee valley. The central begins a little south of 33° north latitude and consisting of two portions, at the north a belt of gravelly and sandy hills and at the south the central pine, or black belt. The southern portion extends from this point to the coast and is in many respects similar to the pine barrens of the Atlantic and Gulf coast. Of all these regions the northern section is the richest in medicinal plants. Dr. Mohr finds that the enormous decrease of the forest area north of the Ohio River and the great development of the drug collecting industry in the Allegheny region, has very greatly diminished the accessible supply of North American drugs, while that of his own State has as yet scarcely been drawn upon. His conclusion is undoubtedly corcorrect, that the early future is to see the development of a very extensive business of this kind in Alabama. His paper is designed chiefly as an aid to apothecaries and others who may interest themselves in the pursuit of this business, and to such it must certainly furnish a valuable aid. A complete and very careful reading of the paper reveals a great amount of care on the part of the author in the writing of his work, but we sympathize with him in view of the great number of typographical errors, which we do not remember to have often seen exceeded in similar works.

Dr. R. Workman, in the *Therapeutic Gazette*, p. 439, reports his experience in 27 cases of treatment by the fluid extract of Euphorbia pilulifera. Out of 13 cases of hay fever prompt relief was obtained in 9, partial relief in 1, and no relief in 3, and in these cases 30 to 60 minims were administered every four hours. Good results were obtained in 6 out of 9 cases of coryza. In 5 cases of asthma, relief was obtained in only one.

In the same journal, p. 450, Dr. T. C. Bressler gives an interesting account of poisoning from the application of a Cantharides plaster.

Dr. Bernatzik believes that the administration of cubebic acid alone in gonorrhœa is preferable to that of any other form of the drug.

Dr. Charles F. Heebner presents in the *Druggists' Circular*, p. 171, an extended discussion on the subject of the terminology of alkaloidal salts, and pleads for the adoption of a uniform system.

Dr. William E. Wheelock contributes to the *Bulletin of the Torrey Botanical Club*, a carefully written monograph of the genus *Heuchera*. Twenty-one species are accredited to the genus, one new species and three new varieties being described.

Scarcity of Logwood.—From "information received" the United States Consul at Merida reports that large forest fires in Yucatan have destroyed many thousand quintals of logwood which were being prepared for market. As the logwood tree is becoming scarcer every year, and supplies have to be sought in districts newer and more difficult of access as the coast ranges get culled out, it is more than probable that prices will be affected somewhat permanently in the near future if they have not already become firmer. Druggists who handle large quantities of the extract will do well to watch the market closely. The forest fires are supposed to be incendiary, the work of some disaffected logwood cutters, who, in revenge for some real or imaginary grievance, have taken this wholesale method of retribution.

ANSWERS TO CORRESPONDENTS.

J. T. C. (Md.)—Your specimen has been identified as *Onosmodium carolinianum*, DC., commonly known as False Gromwell. We cannot trace any record of medicinal properties against this plant. That it may possess some virtue is possible, however, since others belonging to the same natural order are very largely used in domestic medicine; such, for instance, are comfrey (*Symphytum officinale*, Lin.) and borage (*Borago officinalis*, Lin.).

E. G. D. (Miss.)—The "snake-weed" received from you for identification is the *Croton alabamensis*, E. A. Smith. There are so many plants known locally as specific cures for the bite of the rattlesnake that we have been compelled to believe that either its bite is less poisonous than generally supposed, or that almost any plant that grows has the power of curing the effects. We are inclined to believe the former.

W. C. D. (Ill.)—Specimen received pressed between cardboard is *Geum album*, Gmelin. The name "flux-weed" by which you say it is known locally is probably due to some astringency it may possess as indicated by its use in dysentery and diarrhœa. Other species of the same genus have been long used for the same purpose and a fluid extract of *Geum rivale*, Lin. (water avens) is at present upon the market.

J. L. (Mich). The plant you ask about is the "bugle-weed," *Lycopus virginicus*. It has some reputation in domestic practice as a sedative, astringent, alterative. "Bitter bugle weed," *L. europæus* is considered a tonic alterative, and we would suppose it superior to *L. virginicus* for the purposes indicated.

Nut-Cracking Department.

Fluid Extracts—Standardization.

"Junior."—Tinctures are now almost a thing of the past. Our readers need not have had many years experience in the drug trade to enable them to review the gradual but steadily increasing growth of the favor in which fluid extracts have established themselves. They have come to stay; this fact no one can doubt.

The evolution of the fluid extract was, at its beginning, looked on with scant favor by druggists, although medical men took to it at once. Druggists found that the old-time apprentice, who could tackle a tincture, broke down on the fluid extract—there was more skill and more apparatus required than previously. They themselves tried to meet the new state of affairs, and struggled manfully to keep pace with the times; but the fluid extract could not be so easily made on a small scale as the tincture, and hence one by one they fell out of the ranks of would-be-manufacturers. The sequel was only a repetition of the old story of the stage horse trying to compete with the locomotive; of manual labor against scientific machinery; of homespun cloth and the labor involved in making it, against the elegant product of our factories. They gradually yielded to what was found to be the more profitable method, and began buying their fluid extracts from those who made their production a special business.

In the preface to the 1840 issue of the U. S. Pharmacopœia, we notice that the Revision Committee found it necessary to present a full page of argument in defense of "a new process of filtration called *displacement*" which was at that time first introduced into the Pharmacopœia as a substitute for the process of maceration, then commonly employed in the manufacture of tinctures from vegetable drugs.

This is important inasmuch as it shows that there existed at that time, among druggists, an opposition to the process of *percolation*, which has since proven so serviceable and reliable and has enabled us to attain the present standard of quality in fluid extracts.

Adjusting the present line of fluid extracts to a uniform standard of potency, by assay, is another step in the line of progress, and we need not be surprised to see it meet with the same conservative opposition as did the introduction of fluid extracts and percolation.

Syrup Yerba Santa Aromatic.

E. T. D.—This preparation is incompatible with acids of any kind.

In the better class of preparations the resinous constituents of Yerba Santa are rendered soluble in water by aid of an alkali. Free acids partially or wholly neutralize this alkali, thus liberating the resinous matter, which, being insoluble in the aqueous liquid, is precipitated.

United States Wine, and Imperial Measure.

M. W.—In the table on page 1645 of the third edition of the National Dispensatory, the weight of one imperial gallon of water is incorrectly given, one cipher apparently having been accidentally omitted.

One gallon Imperial is the measure of 70,000 grains, or 10 pounds avoirdupois, of water.

Ten pounds avoirdupois are not equivalent to ten U. S. wine pints.

Ten U. S. wine pints weigh 72,911 grains, or 2,911 grains more than an imperial gallon.

One U. S. wine gallon weighs 58,328 grains.

Fluid Extracts—Specific Gravity.

H. D.—The specific gravity of a fluid extract should not be considered a criterion by which to judge the proportion of extractive it contains.

Take cannabis Indica for example. An addition of 10 per cent. of water to a quantity of strong alcohol will increase the gravity nearly as much as will the addition of 10 per cent. of extractive. Cannabis Indica contains a variable proportion of moisture, which is said to be present in some samples as low as 7 per cent., and in others as high as 14 per cent.; hence the lowest specific gravity in a fluid extract might accompany a small percentage of extractive, in case the drug employed contained an excessive amount of moisture.

This entirely leaves out of account the circumstance that glycerin is employed by some manufacturers, increasing, of course, the density of their products. Also, for motives of economy, alcohol is sometimes extended a little with water itself, thus reducing the specific gravity of the finer preparation.

Impure Alcohol.

E. H. B.—The sample of alcohol you submit has a pungent odor, and, when diluted with water, a disagreeable taste. By chemical examination it has been proven to be contaminated with an abnormal proportion of aldehyd, which imparts to it the disagreeable properties mentioned, and renders it unfit for internal use.

Aromatic Spirit of Ammonia.

S. T. B.—The formula for this preparation given in the 1880 revision of the U. S. P., differs from that given in the 1870 issue in the substitution of oil pimento for oil of nutmeg formerly employed.

Saccharin vs. Sugar.

It appears true that certain animals do not approve of saccharin as a sweetening agent.

A correspondent calls our attention to:—

> A curious fact stated concerning saccharin, which may enable us to discover the presence of that substance more readily than by analysis. It seems that ants have a repugnance to it; a pharmacist soaked a piece of filtering paper in cane sugar syrup, and another in a syrup of saccharin. The first was soon covered with the insects, but the saccharin paper was left untouched.

This corresponds with an experiment made some time ago, when our cat, which has been the subject of many physiological experiments, and seems to possess unusually sound judgment, lapped with avidity a sample of milk sweetened with sugar, but refused a similar sample rendered equally sweet with saccharin. Repeated attempts to confuse the creature, by rapidly changing the vessels, failed, as she would distinguish, and reject the saccharin solution with unerring certainty.

Morphine for Quinine.

The following note clipped from the *Druggists' Circular* will probably be interesting and instructive to our readers:

> A fatal mistake recently occurred in Montreal in the substitution of morphine for quinine. The circumstances under which the mistake occurred were unusual.
>
> A physician intending to prescribe quinine bisulphate, wrote morphine bisulphate. The dispenser thinking that the error was in the last word sent out morphine sulphate. The medicine was administered to a child which died, but the death was ascribed to natural causes, and the fatal mistake was not discovered until a second child came near losing its life from being given some of the same medicine.
>
> Public opinion is said to be much divided as to the responsibility for the accident. The physician does not deny that he wrote morphine instead of quinine, but contends that as his prescription did not read correctly it should not have been dispensed without inquiry. In this we think that dispassionate observers will at least partly agree with him. Active poisons should not be dispensed when there is the shadow of a doubt as to the intention of the prescriber, and the prefix "bi" certainly cast a shadow, which should have been regarded with suspicion. We say this not so much in blame as in warning, to render this accident useful in preventing its own recurrence.

Colors for Show Globes.

"Reader."—Many druggists of the present day are using the anilin colors for their show globes. While they are not as permanent as those made of other materials, they last reasonably well and cost a trifle. The anilin colors can be readily made, and the old ones freshened up, by adding a little anilin of the color required to the water or solution already made. Another desirable feature of anilin colors is that in winter, when in danger of freezing, they can be protected from harm by the addition of alcohol or glycerin, as may be preferred, without the danger of a chemical change and the possible loss of the color or other bad result. The anilin colors are made by simply dissolving a small quantity of the desired color in alcohol and adding the solution to distilled water until the required shade is obtained.

The Ounce Symbol in England.

A correspondent writes to the *British Medical Journal* that he finds many members of the medical profession in England understand the symbol ℥ to represent an avoirdupois ounce of 437.5 grains, although the Pharmacopœial Committee have clearly stated that by the symbol the apothecaries' ounce of 480 grains alone is intended.

Similar confusion is frequently noticed in this country.

Nomenclature.

"Student."—The name "Flemming's solution" is applied to a solution of strychnine, and the name "Fleming's (with one *m*) is said to indicate a certain battery solution.

The careless nomenclature of which this is a specimen, seems fortunately to be on the decline, and we hope that some time in the future we may cease to read of "Smith's solution" and "Brown's pills," except as applied to patent medicines.

Misplaced Confidence.

We recently read of the experience of a drug-clerk which will probably prove of general interest, and is described in his own language as follows:

> Somewhat seedy in appearance was Mr. Fraud as he came up to the counter and asked that two prescriptions be filled which called for a hypodermic injection and forty pills. He then sat down and said he would while away the time of waiting by writing, and would I kindly favor him with paper, pen, ink, envelop and a postage stamp? I favored him, of course. After finishing the letter, I was requested to take charge of two small packages while he went forth to mail his epistle. I favored him, of course. In due time the prescriptions were ready for delivery, but the owner, where was he? For him I am still waiting; so are the prescriptions and the angry "boss."
>
> It is not necessary for me to describe my feelings when, upon opening the packages left in my charge, I found an empty pop bottle in one and a match box in the other. That was all. It was enough, however, for certain I was that I had been taken in by a clever swindler with eyes of blue and whiskers of a reddish hue. The "boss" says I must be more careful.
>
> I am seriously thinking of having a sign painted with these words inscribed thereon: "Packages not received as security for prescriptions. Please pay in advance."

The Avoirdupois Dram.

R. L. T.—The avoirdupois dram may be considered obsolete, like the mill in our currency and the barleycorn in our measures of length. It has probably never had other than a theoretical existence, and now has that only in gunnery and in the table given in text-books. The avoirdupois ounce being equivalent to 437.5 grains troy, the avoirdupois dram, being one-sixteenth of the ounce, would be equal to $27\frac{11}{32}$ grains troy.

Philosophy of Solution.

N. B.—Hot water usually exerts more solvent power than cold water, probably because heat dissociates the particles of matter and so enables molecular interchange to take place the easier.

Against this theory stands the other fact that some salts dissolve more readily in cold water than in hot, and this anomaly does not seem to have been thoroughly explained. We have still much to learn about the true nature of solution, as even theorizing on the subject has not proceeded very far.

"CHESTNUTS."

"A little nonsense now and then
Is relished by the wisest men."

"Goods well bought are half sold."

"There are two sides to every question—the wrong side, and *our* side."

"Words are like leaves, and where they most abound,
Much fruit of sense beneath is rarely found."

"The man who says he is going to 'get there and don't you forget it,' makes more noise about it than the man who is actually there."

"It is not the amount of goods sold, but the profit on them, that makes one grow wealthy."

"If you've money to spend, there are chances on call;
If you've money to lend, there's no trouble at all;
If you've money to make, the chances are few;
If you've money to borrow, the Lord pity you."

"When you do anything from a clear judgment that it ought to be done, never shrink from being seen to do it, even though the world should misunderstand it."

"Of all the things on earth there are
To drive a man
To
Drink,
The worst is a rickety sleeping car
When you lie awake
And
Think."

"He who gives all his time and thoughts to ambition has none left for friendship and happiness."

"When it comes to saving dollars a man is more of a genius than a woman; but when it comes to saving pennies, a woman will save a dollar before a man has saved ten cents."

"It is well to be merry and wise,
It is well to be honest and true;
It is well to pay your last year's bills
Before you commence with the new."

"Druggists, however prosperous, always do business on a small scale."

"Never get mad when the other fellow does. Wait until he cools off and then you will have the field to yourself."

"How many things there are to laugh at in this world for the girl who has pretty teeth and dimples!"

"'Tis a very good world that we live in,
To lend, or to spend, or to give in,
But to beg, or to borrow, or to get a man's own,
'Tis the very worst world that ever was known."

"When a man has two cigars, a good one and one intolerably bad, and he gives away the former and smokes the 'stoga' himself, that man comes about as near Christian perfection as it is possible for man to get."

"If your hands cannot be usefully employed, attend to the cultivation of your mind."

"Your character cannot be essentially injured except by your own acts."

"Live up to your engagements."

"Keep your own secrets, if you have any."

"When you speak to a person look him in the face."

"There is one who's truly lucky:
'Tis the man who never frets,
Who is smiling, gay and plucky
At each evil that besets.
Never pausing grief to borrow,
All his woes are puffs of air;
He dismisses every sorrow
With an
I
Don't
Care!

"He is proof 'gainst the mutations
Of that mischief-maker; Time;
He will meet dark machinations
With indifference sublime.
What's the use of toil and hurry?
Wherefore dally with despair,
When a man can silence worry
With an
I
Don't
Care!"

Correspondence.

PARIS LETTER.

An Instructive Case of Arsenic Poisoning—Cause of Phosphorescence in Marine Animals—New Method of Sterilizing Cat-Gut—Strychnine Sugar Plums—Morphine Caramels—Antipyrin Lady-Fingers—Purgative Chocolate—Cocaine Lozenges—A Decomposed Epicurean Digestive Sauce—Is Exalgin a Dangerous Remedy?—Differential Reactions of Antipyrin and Exalgin—Notes on Aristol—Does Calomel become Corrosive Sublimate Under the Influence of Alkaline Chlorides?—Formula of Anti-Neuralgic Ointment—Solution for Conjunctivitis—Quinine Mixture for Hypodermic Use—Liniment for Burns—Gargle for Tonsillitis—Mixture for Athrepsia.

An instructive case of poisoning by the use of Orpiment was reported during a recent sitting of the *Société de Médecine Légale.* A girl of fourteen years suffering from tumor of the breast was treated by an empiric who directed the application, with friction, of a certain yellow ointment which he furnished, at high cost, to the child's parents. In a few days an eschar formed which was washed with a yellowish lotion, and the unguent again applied. This was followed by a pustular eruption on the lips, petechial spots upon the neck, and violent vomiting. The patient died in four days. At the autopsy it was found that death was caused by arsenical poisoning. An examination of the unguent showed it to be composed of impure Orpiment (*trisulphide of arsenic*) containing a large proportion of arsenious acid. Drs. Chabenat and Leprince thought it an error to suppose that Orpiment was incapable of producing arsenical intoxication, though the arsenious acid present might be thought the cause of the present trouble. M. Pouchet said that the fact was too little known that pure Orpiment may produce toxic symptoms; but, applied to the skin it will not act as an escharotic, hence, the addition of arsenious acid. Taken altogether, Orpiment was regarded by the Society as a very doubtful remedy to prescribe.

The causes of phosphorescence in some marine animals gave rise to an interesting discussion in the *Académie des Sciences.* The phenomena have been variously attributed to phosphorus, carbonic oxide, etc., but M. Girard seems to have demonstrated that they arise from a bacterium, which he has carefully caught, measured and colored with gentian violet. M. Girard, furthermore has been breeding these new biological specimens in considerable number, and, with sound notions as to the practical value of scientific discoveries, has sought uses for his cultures. He found that, by smearing his left thumb with the bacteria he could see what time it was by his watch on the darkest night.

A Lyons pharmacist (M. Larochette) has found a new method of sterilizing catgut, which is so simple and effective that it has met with general approval and been adopted by the Paris hospitals. M. Larochette thought that the old method of heating the gut with oil did little more than "bake" the substance, thus rendering it friable. He places the cat-gut, without removing the fat, in layers in a wide-mouthed jar, each layer separated by sterilized cotton. In the cork of this jar three openings are made, one for a vapor conducting tube, one for a thermometer, one for Roux's apparatus for regulating the temperature. The jar is then subjected to gradual heat until 140° C. is reached. The gut is removed with forceps which have been passed through a flame, and at once placed in a ten-per-cent. mixture of olive oil, previously boiled.

The pharmaceutical journals here have made the remarkable discovery that "strychnine sugar-plums, containing, each, two milligrammes of that redoubtable alkaloid, are now greatly in vogue in America for use in church and at the theatre." Evidently it is necessary to go to France to obtain the real truth concerning American habits. "The properties of strychnine are such," seriously remarks one journal, "that the ulterior results of this method of refreshment are liable to soon cool the ardor of its votaries." It might be well to remind the manufacturers of this canard that medicated cakes and bonbons originated in France. Within a stone's throw of my office, I can buy morphine caramels, purgative chocolate, antipyrin lady-fingers, and cocaine lozenges. But the most furiously bad production classed with modern "French medical luxuries," consists of a certain "digestive sauce," supposed to consist of pepsin, pancreatin, orexin, ingluvin, papayotin, diastase and fel bovis. The condiments added to this precious mixture do not disguise its decomposing condition, and a bold epicure is he who shakes it over his fish as a medicinal substitute for Worcestershire sauce.

There has been of late some discussion as to whether or not Exalgin is a dangerous remedy. Professor Prévost, in the *Revue Méd. de la Suisse Rom.*, says: "It is more dangerous than antipyrin, or—its solubility considered—than acetanilid, and it is well to be circumspect in its use until experience shall have definitely settled the character of the phenomena which follow." He then cites cases of poisoning caused by the injestion of 40 centigrammes of Exalgin, three times a day. Dr. Bardet replies, substantially, that Exalgin must be used prudently, but is no more dangerous than are "other medicaments capable of producing toxic effects." So, even according to those who most favor Exalgin, pharmacists must be cautious in dispensing the drug. Bardet says, indeed, that the recorded case of poisoning is the only one cited in medical literature after an eighteen months' use of the drug, but, in his defense of it, he tacitly admits that it may have toxic effects. Meanwhile the papers are giving the differential reactions of antipyrin and Exalgin as follows:

REAGENT.	ANTIPYRIN.	EXALGIN.
Perchlor. iron.	Intense red.	No coloration.
Esbach's reagent.	Yellow precipitate soluble with heat.	No precipitate.
Hypobromite sodium.	White preciptate cold; yellow with heat.	No precipitate.
Permanganate potash.	Reduces at once, cold.	Goes down only with heat.
Bichloride.	Precipitate soluble with heat.	No precipitate.
Chloride of platinum.	Yellow precipitate, soluble with heat.	No precipitate.
Sulphocyanate of zinc.	Precipitate soluble with heat.	No precipitate.

Aristol seems to have found some favor with certain therapeutists. MM. Quinquaud and Fournioux lately stated its physiological effects to the Societé de Biologie. It was given to animals in doses of 2.50 grammes per kilogramme of weight, and produced no unpleasant results. In man it is supposed to eliminate by the urine in the state of an alkaline iodide united to some unchanged thymol. Four or five days are required for this elimination. Aristol, given hypodermatically, causes no local phenomena of an inflammatory character.

There has been some talk of late concerning Mialhe's theory that Calomel decomposes under the influence of the alkaline chlorides at the temperature of the human body. At a meeting of the Societé de Therapeutique, Dr. Paul Adam lately gave the results of some researches he has made on this subject. His conclusions are as follows: "In operating in the open air and at high temperature, Calomel, under the influence of the alkaline chlorides (especially of the chloride of ammonia), may become transformed into corrosive sublimate. But closed from air and in presence of organic substances, the transformation of Calomel by these salts does not take place, so, if we do not care to administer Calomel to a fasting patient, it does not matter if we give it to one who has eaten salt with his food."

Among the recent formulæ I note the following: *Anti-Neuralgic Ointment:* Menthol, 72 cgm.; hydrochlorate of cocaine, 24 cgm.; chloral, 12 cgm.; vaselin, 4.50 grammes; mix; apply in small quantities and cover with muslin; recommended in periorbital pains and ophthalmic hemicrania. *Conjunctivitis Solution* (Saint-Germain and Valude): Borate of sodium, 1 gramme; lavender water, 30 grammes; distilled water, 150 grammes; may be used on compresses or with the eye-cup. *Quinine Mixture for Hypodermic Use in Malaria* (Prof. Bacelli): Hydrochlorate of quinine, 1 gramme; chloride of sodium, 75 cgm.; distilled water, 10 grammes; 40 to 60 cgm. may be introduced into the smaller veins of the arm. *Liniment for Burns:* Salol, 1 gramme; olive oil, 70 grammes; lime water, 70 grammes; the parts should be lightly covered with muslin after the application of this preparation. Bouchard's *Gargle for Tonsilitis:* Borate of sodium, 6 grammes; tr. benzoin, 10 grammes; infusion of blackberry leaves, 250 grammes; use as a gargle; may be applied as a revellent to the lower limbs. Quinquaud's *Syphilis Plaster:* Emplast. diachylon, 3,000 grammes; calomel, 1,000 grammes; ol. ricinæ, 300 grammes; spread on muslin, four inches square; apply for eight days, and discontinue for eight days. Dupré's *Mixture for Athrepsia:* Oxide of zinc, 3.50 grammes; bicarbonate of soda, 1.50 grammes; tr. rhatany, 2 grammes; flavored mucilage, 30 grammes; a teaspoonful every half hour until cessation of vomiting and diarrhœa.

LONDON LETTER.

The British Medical Association—The New Schedule of the Minor and Major Examinations—The Approaching British Pharmaceutical Conference.

The meeting of the British Medical Association took place as usual this year, being held in Birmingham during the last week or July. The strangers who gathered in the city numbered nearly a thousand, and the meeting must be characterized as a success; for pharmacists, however, there was little of interest. Among the twelve sections into which the papers were divided, there was none devoted to pharmacology or pharmacy, and consequently it was only here and there that a contribution appeared which attracted the wielders of the pestle. These latter, so far as the craft was represented, were chiefly to be found in the Museum—an annual institution which grows in favor. Even this, however, had nothing sufficiently novel to merit description.

Far more interesting to pharmaceutical circles was the issuance of the extended schedule of the Minor and Major examinations. Up to the present, the official indications of the scope of these ordeals have been characterized by considerable vagueness and indefiniteness, and as a natural consequence the individual experiences of examiners show the greatest diversity in the relative difficulty of the questions and of their association with the subjects of study. It is, of course, quite conceivable that when an examiner has to meet some scores of young men at a sitting, he may find it a relief and a pleasing variation to sometimes question a candidate on an entirely outside subject, which the latter is fortunate if he knows something about. Examiners in botany have been known to question the student about the nature and propagation of smut in corn; and the gentleman appointed to test the Minor candidate's knowledge of chemistry, now and then asks questions about the constitution of secondary alcohols and amines "just to see what the young man does know!"

Many and frequent have been the protests against this somewhat loose way of conducting the examinations, and at length—on August 6th, 1890—was published an extended schedule of the subjects, which it is believed will clear away much of the difficulty referred to. Some idea of the scope of the extension may be gathered from a comparison of the indications given of the nature of the examination in physics of the Minor under the two systems. The old syllabus simply said: "The candidate is required to possess a general knowledge of the laws of chemical philosophy, and a *practical* knowledge of the means of determining specific gravities, densities, and temperature, and of the instruments appertaining thereto, and the physical and chemical constitution of the atmosphere." The new schedule particularizes as follows: "The candidate will be expected to possess an *elementary* knowledge of the law of the conservation of energy; the law of gravitation; the British and metric systems of weights and measures; the balance; specific gravity; atmospheric pressure; the barometer, air-pump and syphon; the law of Boyle; temperature; thermometer; the law of Charles; the law of gaseous diffusion; Victor Meyer's method for determining vapor densities."

When the scheme was first published it aroused some objection on the score that it opened the way for more effective cramming, and it was anticipated that a number of Complete Pocket Guides to the Major and Minor would be published, wherein, in the form of a catechism, the whole of the examinations would be found defined, and correct answers supplied to all questions for learning off. There is doubtless some danger of this, as the examiner's hands will be tied by the detailed schedule, and no more pleasant excursions into the fields of agricultural economics or of too advanced chemistry will be possible. By students, however, the scheme is heartily welcomed, and perhaps some will postpone entering for the examinations till August, 1891, when it comes into force.

The British Pharmaceutical Conference is now close upon us; 17 papers have been already announced. Of these, 7 may be classed as pharmaceutical, 3 as pharmacological, and 7 as chemical. Mr. J. F. Burnett reports on three years' experience with chloroform water as a preservative. The antiseptic property of chloroform has long been recognized, and the aqueous solution (1 : 200) has been employed as a preservative of various dispensing solutions, of fresh infusions, etc. Probably we shall hear of further applications of the agent in pharmacy. Mr. R. Wright has studied the Pharmacopœial tinctures with respect especially to the solvents employed. That our general principle of making all tincturæ with either rectified or proof spirit is open to objection, is self-evident, and will probably be made more manifestly so by the results of Mr. Wright's experiments. In an age when economy is so prominent a consideration, the unnecessary use of rectified spirit where a much weaker menstruum would give an equally effective preparation, is much to be deplored. A somewhat allied communication is promised by Mr. E. H. Farr on "Alkaloidal Tinctures." Dr. Lewkowitsch announces a paper "On Glycerin," which will probably be concerned with its preparation from soap lees, as the author is connected with a soap works in Leeds. Messrs. Naylor and Chaplin promise the results of a "Ghemical Examination of the Bark of *Orovylin Indicum*," and another pharmacological paper will be by Mr. E. M. Holmes on "*Strophanthus Hispidus*," while Dr. Moolooswany will contribute to our knowledge of the "Medicinal Properties of some of the Indigenous Plants of Southern India," and Mr. C. J. S. Thompson writes a note on the "Comparative Medicinal Value of the Three Buchus." Other papers of strictly pharmaceutical insterest deal with "Adulterated Saffron," and "Green Iodide of Mercury," the latter a preparation which for some unaccountable reason has been left out of the Pharmacopœia.

Of chemical contributions besides those mentioned which also fall into another class are papers on the "Tests for Methylated Spirit," on the "Estimation of Nitrites in Drinking Water," by Dr. J. C. Thresh, on "Alkaline Sulphites," on "The Constitution of Synthetic Remedies,' and "On a Double Chloride of Mercury and Caffeine," by Mr. R. H. Davies. Aqueous solutions of caffeine and mercuric chloride have been observed to give a white crystalline precipitate. Probably the author will be able to show how this reaction may be utilized as a test for the identity of caffeine as it seems that few substances if any, give a similar precipitate with mercuric chloride.

From these foreshadowings it is evident that the Pharmaceutical Conference of 1890 will be by no means barren in valuable results; there is every prospect that it will prove worthy of its predecessors. Leeds itself is very favourably situated for a large gathering of pharmacists, being almost equally convenient for travellers from the South or from the North of Great Britain, while a great number of attractions lie within comparatively small distances.

The proceedings commence on Monday evening at 8 P. M. with reception by the President and a conversazione; papers are read on Tuesday and Wednesday, and Thursday is devoted to excursions.

PHARMACEUTICAL NEWS FROM GERMANY.

The International Medical Congress.

The chief topic of interest even for pharmacists was of course, the International Medical Congress. This is not at all surprising if we reflect that without medicine there would be no pharmacy, and moreover the Congress to some extent made provision for the followers of this art, and there were some well-known representatives of the body present not only for the countries of the Continent, but from England and even from the United States. I will only mention among these Dr. S. Hirsch, the writer of the Universal Pharmacopœia, Dr. Schacht, head of the German Pharmacopœia Commission, Dr.

Squibb, of New York, H. Helbing, of London, and many celebrated pharmacologists who take great interest in medicine such as Prof. Husemann, of Göttingen, Prof. Kobert, of Dorpat, Prof. Pöhl, of St. Petersburg, Prof. Schmiedeberg, Dr. Lauder Brunton, of London, and Dr. Horatio C. Wood, of Philadelphia, and many others.

The exhibition was a grand affair surpassing anything of the kind ever seen before and got up for such a short time as only a week. Amid a vast mass of more or less familiar material, though sometimes presented in new forms, there were a few novelties among the chemicals. One of these was "*Tritopin*" a newly discovered opium base which occurs in less quantities than even protopin. There were also two new non-sternutatory alkaloids of Sabadilla and Euphorine, the latter of which is said to be an excellent antipyretic.

American firms were represented there, among which Parke, Davis & Co. showed goods which attracted special attention and were favorably spoken of by such German houses and authorities as take an interest in new vegetable drugs. The best proof of this is applied by the following quotation from one of the leading pharmaceutical papers: "Although the house in question," say the official organ of the German Apotheker Verein, "must be credited with some merit that it showed so much material for scientific investigation, it would deserve still greater praise if in this respect it would follow in the line of Messrs. Parke, Davis & Co., who put forth every effort in the collection of a supply of any drug which might be of interest, and in studying its characteristics, history, and properties, as shown in the Working Bulletins—publications of inestimable value.

The number of drugs primarily introduced by American enterprise and particularly by the firm above named, which was to be seen in the exhibition was very considerable. Among these I can name a few at random such as Jaracanda, Eschscholtzia, Chekan, Boldoa, Naregamia, Turnera, Adonis, Hamamelis, Grindelia, Aoteracantha.

Of the various Sections, that of Pharmacology in which a considerable number of papers were read, naturally attracted the pharmacist most. Prof. Kobert had a good deal to say on the stomachics and some very interesting particulars were given of the researches carried out by Mr. Raum specially on Cetrarin, but also dealing with other members of the same class, such as Quassin, Calumbin, Absenthin and Exostemin. Although a very widespread belief has existed in the efficacy of the Stomachics, it has been up to the present very difficult to obtain a satisfactory test of their action. With reference, however, to Cetrarin, there can be no doubt that it, in common with many other stomachics, exerts a marked action upon the intestines, increases the appetite and has a general stimulant action on the digestive system. The single dose of Cetrarin is 1½ grain.

Another paper by the same author, which aroused a good amount of criticism, was on the salts of Uranium. The author showed that these compounds are highly poisonous, being at least equal in this respect to arsenic and antimony, and certainly not suitable for medical purposes as suggested in certain quarters.

The discussion on Spermine was very lively. The subject was introduced by Prof. Pöhl, of St. Petersburg, who believes that the active principle is ethylenemin. An interesting point is that Spermine is contained in musk, though only in very small quantities, and also in castoreum, in which it is present in large proportion. Pöhl is decidedly of opinion that Spermine has a strengthening action on the normal body, and he thinks that it may very likely prove serviceable in therapeutics; he is continuing his investigations in the matter, and lays particular stress on the importance of making trials with the synthetic ethylenemin.

Many other interesting subjects turned up, of course, such as that of the active principle of Male Fern—a subject which in these days forms a paper at nearly every scientific gathering. Another was the action of Fluoroform, which is similar to that of bromoform (and both like to that of chloroform), but the chief centre of discussion was the long dreamed of, but still visionary, International Pharmacopœia. A number of reasons could be, and were, pointed out why the preparation of such a work would at present be attended with great difficulties; the selection of drugs found to be sufficient for the medical practice of one country will not include a great many regarded as essential in another, and, on the other hand, will contain many which will be looked on by the foreigner as wholly superfluous. A very considerable number of visitors took part in the discussion, and the issue of the whole seemed to be that, though the construction of an International Pharmacopœia was a hopeless undertaking, yet there were plenty of quite feasible methods of bringing about more uniformity in the same preparations of the same drug, particularly in extracts, tinctures, and acids. These, it would be quite easy and convenient to make with the same proportions of ingredients, the same menstrua, and the same processes, so that the products would be approximately the same. Some degree of uniformity is becoming necessitated by the growth of International intercourse and travel which continually brings visitors to apply for the medicines they require in foreign pharmacies, where, under the same name, they may get a very different preparation to that which they have used in their own country.

NEW YORK LETTER.

Sept. 5th, 1890.

In marked contrast to the condition of the market at the time my last letter was written, the condition at the present writing, is one of decided activity.

The Autumn demand for drugs seems to have set in very much earlier than last year, has been active, and sales frequent and large, with the consequent result of a considerable advance in price on very many leading articles.

Quinine has advanced very materially in value since my last letter was written, and added to the perhaps unusual demand for consumption, there has been shown a disposition on the part of buyers, to again speculate in this article. There has been an advance of from 15 to 20 per cent. in the cost of cinchona barks at recent auctions abroad, but in face of the very heavy stocks that are being held in this country, this would be hardly a sufficient reason for the increased firmness on the part of holders of quinine. The true reason, doubtless, for the present speculation is, the hope that the effort that is now being made, on the part of American manufacturers of quinine, to have a duty again placed upon the article, may prevail. Of course the issue is doubtful. Many think that public opinion is too strongly set against any duty on quinine, while others believe that our representatives in Congress, will yield to the pressure that is being brought to bear. At all events, there can be no question, but that this is the prevailing feature of our market that prompts speculation in the article.

Opium.—Has been a disappointment to all who have speculated therein. While our market has remained firm, it has not advanced in value, nor does there seem at present any indication of higher prices being reached.

Morphia, in harmony with the price of crude opium, remains at its own price. Demand is not unusual and supplies are abundant.

On all drugs of Mexican origin, there has been a great advance in value. For some reason, which is not given, supplies seem to be withheld, and the usual consumptive demand has been sufficient to almost entirely exhaust our market. Notably among these drugs, may be mentioned:

Jalap.—There is little or no stock here, and none of consequence held abroad. Prices are fully four times as high as a normal condition of affairs would warrant.

Mexican Sarsaparilla has during the past month doubled in value; stocks are short, and there are no advices of more to arrive. However, any incoming steamer may change this condition of things should it happen to bring supplies.

Hops.—We are informed that the English crop has been an entire failure, and that the Continental crops are very much less than usual. These reports have tended to stiffen the market, until to-day hops cannot be bought for double the price that sales were made a month since.

Balsam Tolu.—Large quantities have been exported during the past week or two, and, as a consequence, prices here are higher. Fortunately, however, demand is light, and dealers have not been able to advance the price as rapidly as they hoped.

Guarana is almost absolutely wanting, and there is no chance of further fresh supplies being received until next year, so that constantly advanced prices must be looked for, although the article at present is very much higher than is desirable on the part of users.

Senna.—The Alexandria variety shows no particular change. There seems to be sufficient stock on hand to meet all requirements.

As to the *Tinnevelly Senna*, it is too early as yet to offer any opinion concerning the result of the new crop. Early arrivals have come to hand on the London market, but none have as yet reached America. By the time my next letter will be written, we will know more about the condition of this market, and I probably will then refer to it again.

Celery Seed.—The pickling season brought on a heavy demand, to meet which there was but a small supply, consequently prices advanced materially. The pickling season, however, has passed by, and as the new crop of seed begins to reach this market, without doubt prices will again recede.

Oil of Peppermint has advanced materially. The same remarks will apply to *Oil of Lemon* and *Oil of Sassafras*. The demand for all these oils is exceedingly active, and the supply not as great as usual.

Spice Herbs.—The days for cheap Italian sage, we believe, have passed. Freights are exceedingly high and the unremunerative prices obtained during the past few years, have so discouraged gatherers, that they have largely withdrawn from preparing it for the market.

Marjoram, Thyme, and Summer Savory.—We are glad to notice an increased demand for the higher grades of these articles also, with particular reference to marjoram. It does not seem possible to get it of too fine quality, whereas in years past, the principal demand was for the very lowest grades, so that the cost should be brought to the very bottom.

Cubebs.—The crop from which receipts are now coming in, is probably no larger than the crop of last year, but we are glad to notice a decided improvement in quality. Prices are firmly maintained, and will not be less.

Insect Powder.—The very low price of insect flowers, should tend to place upon the market a very much higher grade of powder, as the temptation on the part of grinders to adulterate is not so great.

Resin Scammony has advanced very materially in value, it being a scarce in this market.

Arnica Flowers are very scarce and are selling at very much advanced rates. The holdings on this market are concentrated into strong hands, who are naming their own prices, as the new crop is of such poor quality and held at such high prices as to preclude the possibility of a return to former prices for some time to come.

Book Reviews.

Bulletin of the Torrey Botanical Club, August, 1890.

Among the original contributions to this number, we notice, from Dr. H. H. Rusby's pen, an admirable Biographical Sketch of the late Dr. Geo. Thurber. Few of our readers may be aware that this distinguished botanist began life as a druggist, and that he not only served his apprenticeship to the trade, but for some few years was joint proprietor of a pharmacy in his native city, Providence. Dr. Geo. Thurber was in the strict sense of the word a self-educated man, and the story of his life comes to us as an inspiring revelation of what enthusiasm and application in study may do. The sketch before us details in a very interesting way the successive positions in life which he so acceptably filled, and the unsolicited honors which were bestowed upon him. His work as botanist with the United States and Mexican Boundary Survey "will ever be historical," and no less so, in the estimation of the New York College of Pharmacy, is his connection, as Lecturer on Botany and Materia Medica, with that Institution—a position he held for many years, intermitted, however, by four years during which he filled the chair of Botany and Agriculture in the Michigan Agricultural College. He then became editor of the *American Agriculturist*, which he conducted successfully for twenty-two years. This may very truly be considered his life work, and with respect to his connection with this paper it is said that "his writings did more in his time to elevate the standing of the agricultural and horticultural press of the country than the writings of any other man." Dr. Thurber had no sympathy with patent medicines, and no advertisements of these were received for his paper during the long term of his editorship. "He would touch no medicine of any kind unless he was fully informed as to its composition and character, and even in matters of eating and drinking he insisted upon the most perfect knowledge of the nature of the articles. It is even humorously reported that he could not enjoy his green peas unless he knew the name of their variety." We could all take a lesson in this respect—we pay too much deference to the patent medicine, whose secrecy is synonymous with humbug. Dr. Thurber wrote the graminology of the botany of the Geological Survey of California, and the botanical matter of Appleton's *New American Encyclopædia*, besides a host of minor works, contributions, essays, etc., that could not be here enumerated, but which in the words of the writer of the sketch were always conspicuous "for the extent and accuracy of the botanical information which they covered." G. S.

Michigan State Agricultural College Bulletins, Nos. 63 and 64.

We take occasion here to notice the former of these bulletins, entitled "Greenhouse Building and Heating," since the heating experiments are of interest to all who use or contemplate the use of other heating contrivances than the familar base-burner. The experiments were made with two new and exactly similar furnaces, the one arranged to heat with steam, and the other with hot water. The conditions were scrupulously alike; all coal was weighed, and temperature of both greenhouses carefully recorded twice a day. "The average shows that the steam house had a temperature about one and one-half degrees lower, although it consumed 24 per cent. more coal. . . The tests thus far made indicate that hot-water heating is both more economical and more satisfactory." The moral is evident.

The second number of the *Contributions from the United States National Herbarium*, dated June 28th, 1890, is entitled, "Upon the Collection of Plants made by Mr. G. C. Nealley in the region of the Rio Grande in Texas, from Brazos Santiago to El Paso County," by John M. Coulter. This is a pamphlet of 61 closely printed pages, and enumerates 903 species and varieties, 34 of them being new to science, those in the Gramineæ being, of course, proposed by Dr. Vasey. Mr. Coulter adopts Urban's reference of Prof. Ward's *Turnera aphrodisiaca* as a variety of *T. diffusa*. The publication of this contribution is one of the valuable results coming from the recent increased appropriations made to the Botanical Division of the United States Department of Agriculture. Mr. Neally is one of the special collectors whom Dr. Vasey has been enabled to employ in exploring the little known regions of the South-west. His collection of Glumaceæ in 1887 and 1888, the report of which is printed in this work, was one of the largest and most important ever made of these plants in this country.

The letter of transmittal informs us that Prof. Coulter is employed to "prepare a special bulletin for public use among botanical students and all others who seek information respecting the vegetable products of this extensive region." (Texas.) The present catalogue, we are informed, is preliminary to the full report, and we have thus a prospect in the near future of having a convenient hand-book of the Texas flora, a work which Prof. Coulter is eminently able to perform in a satisfactory manner.

The report of the Botanist of the United States Department of Agriculture for 1889 is just to hand. It contains a report from the Experimental Grass Station at Garden City, Kansas, an illustrated paper on *Noxious Weeds*, by Prof. F. V. Coville, an illustrated note on the distribution and occurrence of *Shortia galacifolia*, notes on the *Examination of Nut grass*, *Florida Plants*, *Uniola Palmeri—a New Grass of Economic Importance*,—and *Useful Desert Plants*. Unfortunately some of the plates are not very creditable to the publication.

A MANUAL OF PHARMACEUTICAL TESTING; for the man of business and his assistants. By Barnard S. Proctor, F. I. C. Cloth; 12mo; pp. 176. Published by *The Chemist and Druggist*, 42 Cannon Street, London.

Every pharmacist should test his chemicals occasionally, to see that their quality is up to the desired standard. To do this frequently, the tests must be the simplest, speediest, and most inexpensive that can be devised. The tests should provide a thorough and complete answer to the query: Is the article fit for use?

Having given an answer to this, it is, in many cases, of little moment whether or not the extent of deviation from standard be indicated. It is usually better and simpler to reject that which is faulty than to make an exact analysis and allow for its deficiences. Absolute purity is only theoretically obtainable, and it is better to define within clear and reasonable limits what may be allowed in practice, than to give definitions which, from being unnecessarily and impracticably stringent, become a dead letter. There is a wide distinction, which should be carefully noted, between the presence of such impurities as only detract from the activity of a drug, and those which are agents for evil. For instance, one per cent. of water above the legitimate proportion would cause little trouble, while one-tenth the quantity of arsenic present as an impurity would totally unfit the sample for use.

This book gives directions for testing such as will enable any ordinary pharmacist to examine and determine the quality of his pharmacopœial chemicals by means of such reagents and appliances as are usually to be found at the dispensing counter, and by such operations as are in daily use in dispensing. Thus it is a most practical work, and should be had by every pharmacist, as it will encourage the habit of testing the chemicals used in medicine, a habit that will in many instances lead to a higher class of investigation, and better knowledge. This testing will, moreover, lead to greater uniformity in products—a great desideratum to both druggists and physicians, as well as the patrons of both—since it will be a check upon jobbers and manufacturers, forcing them to adopt a uniform standard of quality and purity.

EQUINE ANATOMY AND PHYSIOLOGY. By William R. Ballou, M. D., Professor of Equine Anatomy at the New York College of Veterinary Surgeons. Cloth; 12mo., pp. 205. Price $1.00; interleaved for notes, $1.25. Published by P. Blackiston, Son & Co., Philadelphia.

This, No. 12 of Blackiston's series of "Quiz-Compends," is a most handy and valuable book, first from the thorough and concise way in which equine anatomy and physiology is treated, and second, from the fact that it is a subject of interest to every horse-owner and medical man, irrespective of veterinary practice, and is now for the first time brought within reach of all interested. While it is desirable every medical man should know something of comparative anatomy and physiology, particularly of the domestic animals, he has heretofore been debarred, as it were, by the price of the larger works, as well as their volume. In this manual, however, the essentials are embodied, and ready reference is facilitated by a most copious and comprehensive index. Though, as a rule, we do not consider the system of teaching or learning by "quiz compends" at all conducive to the thoroughness essential to proper understanding and knowledge, as such books are intended for the most part to assist students in cramming for examination, the merits of this work are such we are compelled to suspend adverse criticism so far as it individually is concerned.

A COMPEND OF CHEMISTRY, INORGANIC AND ORGANIC, INCLUDING URINARY ANALYSIS. By Henry Leffmann, M. D., DD.S. Third edition, revised. Cloth; 12mo.; pp. 193. Price, $1.00, or interleaved for notes, $1.25. Published by P. Blackiston, Son & Co., Philadelphia.

This is No. 10 of Blackiston's series of Quiz Compends. That a third edition is called for, sufficiently evidences its popularity, and it appears to be very complete. The author says:

> Works of this class do not always meet with favor at the hands of reviewers; but any one who has had experience in teaching in American medical colleges knows that as long as present methods continue, some such assistance is absolutely essential. It affords to the student an opportunity to keep up with the lectures, and obviates the necessity of taking voluminous notes in which serious errors are liable to occur. Such books, of course, cannot claim any originality; their merit lies in their accuracy, perspicuity, and judicious selection of facts.

This certainly presents the case of "quiz compends" and their use, in the very best light possible; at the same time it evidences the sad need of radical reform in the methods of medical education in vogue in the United States.

BOURNEVILLE AND BRICON'S HYPODERMIC MEDICATION. By Dr. G. Archie Stockwell, F. Z. S. Cloth; square 12mo; pp. 150. Price, 50 cents. Published by Geo. S. Davis, Detroit.

This is one of the Leisure Library series of 1889-90, and likewise one of the most valuable. The *Manuel des Injections Sous-cutanées* of Drs. Bourneville and Bricon has achieved such notable success in Europe and the United Kingdom as to need no apology for introducing to American readers. The work has been almost wholly rewritten by the editor, and in many particulars condensed, rearranged, and added to, in a way to meet the demands of cis-Atlantic practitioners. As it is the only work of the kind at present available in the English language—Bartholow's work having been out of print for some years—we bespeak for it the extended circulation that it deserves.

Facetiæ.

ANOTHER WAIL OF WOE.—

A little corn on a maiden grew—
  Listen to my wail of woe—
Caused by the pinch of a too tight shoe,
  Instead of a three a number two.
It grew, it grew—
  Listen to my wail of woe.

As time went on (as time will do)—
  Listen to my wail of woe—
The corn waxed red, the maiden blue;
  It was ten times worse than the grip (kerchew!)
Too true! Too true!
  Listen to my wail of woe.

She had a seat in the end of the pew—
  Listen to my wail of woe—
And a man with another seat in view
  Put his cowhide boots on her kangaroo;
Listen to my wail of woe.

—[*Odontographic Journal.*]

QUALIFICATIONS FOR A DRUG CLERK.—Scene: Chemist's shop in a temperance town out West, where, among other good things, "soda water" is retailed in pretty considerable quantities. Enter young man, who inquires if there is a vacancy for assistant.

"Have you the requisite knowledge and experience?" was the proprietor's first question as he drew the applicant aside.

"I think I may safely say I have," the young man answered in an undertone.

"Been long in the business?"

"Three years."

"Where?"

"In Milwaukee."

"Humph! What would you do if a customer gave you a nod of the head as he went up to the soda fountain?"

"Let him have good old corn brandy and soda."

"A couple of short nods and a clack of the tongue?"

"Fill the glass half full of Jamaica rum."

"Suppose somebody asks for banana syrup with his forefinger and thumb stuck in his left waistcoat pocket?"

"He means cognac with ginger."

"Three nods while pointing with his thumb over the left shoulder?"

"Old Holland gin, and the same for his friends behind him."

"If somebody says 'Hudson,' and expectorates to the left?"

"Old corn with peppermint and wormwood."

"Removes the quid from his mouth with his left hand?"

"Hand made sour mash."

"Very good; that will do. You can start to-morrow. If anything out of the common is wanted—you'll find all these things in our cellar. You see, we have to be very careful in making up our prescriptions, as people's lives are at stake."

A CASTOR OIL MARRIAGE.—Miss G. had two millions of francs fortune left her by a grandmother. She had been asked to marry by a noble Englishman, a Belgian lawyer, and an Italian wine merchant. She had refused all offers, declaring that she would never marry any one. It happened (I trust my pen may be permitted to write this without making the ink blush) one day that Miss G. had a sore throat, and the family physician ordered her castor oil. The medicine took effect in the orthodox manner, and in one of her lively movements of vivacity, while the lady was seated on that domestic utensil that a Greek mot defines in French as a *pot de chambre*, the china ornament cracked under her gluteal muscle, and she was wounded quite severely in the perineal region. She uttered loud cries of distress, and the mother, running to her assistance, found her cut by the china. "Quick!" cried the excited girl, "go seek a physician. Not our doctor, for he is a married man. No married man shall ever see my wound. It shall only be attended by a single doctor, and he must agree to marry me, or I shall die of mortification." She was so resolute that her mother and father knew that nothing could alter her determination. Out into the streets went her paternal progenitor in a mad search for a doctor, suitable for a husband and physician for Miss G. Yes, the doctor who should call must become his son-in-law. The case was desperate, and the wound required speedy assistance. The father went to a number of doctors' residences. The first question he asked was: "Are you married?" The first six physicians called on were united in matrimony. The seventh was an old bachelor of 60. The eighth was a bachelor, but humpbacked. The ninth had a wooden leg. Finally he reached the thirteenth doctor, who was neither married, humpbacked, nor lame *numero dues impari gaudet*). The thirteenth was handsome, single, and aged 30. The situation was explained to him; he was gallant, poor, and a Frenchman. He accepted most cheerfully. He did not know the young lady, but the two million francs of *dot* caught him. He went and performed the operation of sewing up the perineal wound. Some months later the marriage occurred. You will ask me, gentle reader, if the marriage was a happy one, and I answer, more than happy. This happened in 1858; the doctor is now Professor X., and has thirteen children, three pairs being twins. Lucky girl with perineum, good doctor, and happy family.—*L'Independence Belge; Cincinnati Lancet and Clinic.*

LEISURE HOURS IN A DRUG-STORE.—The following choice gem is abstracted from a paper read before the Connecticut Association, written by J. G. Rathbun:

A while ago there was a gentleman by the name of Phin Acetin, who for many, very many years, had been a leading druggist in one of our cities, plodding along and working twelve to fifteen leisure hours a day. Owing to the competition in trade, and counter-prescribing by the physicians, he had been able to save but little for a rainy day, and rainy days came very often. He had an inventive turn of mind, and at various times had invented the best Cough Syrup, the best Liver Pills, the best Corn Cure, and other valuable remedies. One day he was inspired to invent a Cough Candy, which he called Bacteria Cough drops, that would knock coughs, colds and bacteria higher than a kite. He also invented a corn salve, which he, by a lucky thought, named the Iodoform Corn Remedy. It was a fortunate inspiration and his fortune was assured; the reputation of his wonderful remedies spread all over the land and an English Syndicate paid him a large sum for the right to make and sell his preparations.

He gave up his drug business and settled down to a life of ease and luxury. No more leisure hours for him in a drug-store.

As soon as the novelty of his new position wore away he grew restless and unhappy. He lost his appetite and time hung heavy on his hands.

His family tried to get him away for a health trip, but he would not budge from home. Soon he couldn't sleep; he was uneasy, and would wander off to the nearest drug-store every day and bring home his pockets full of circulars, almanacs, calendars, receipt books, etc., and read them by the hour.

His family became alarmed and tried to divert his mind, but in a few weeks he went from the usual pharmacist's weight of 175 pounds to 125 pounds. He refused to take the medicine prescribed by the family physician, and fed on the physicians' samples left at the drug-stores by various agents; but it did not help him. He even went so far as to take many of the patent medicines, such as he had formerly recommended, and at last began eating his famous Bacteria Cough Drops; but all in vain.

One day his eldest daughter, a beautiful girl of twenty-one summers and twenty-two winters, who had been a pretty type-writer and knew something of the world, determined to try an experiment. She had quietly and carefully watched her father, and made up her mind that she could cure him. After unfolding her plans to her mother and the doctor, she proceeded to carry out her scheme. One day she went down town and had an interview with a large jobber of drugs and medicines, who entered heartily into the plan.

A large, unoccupied basement front room in the house was fitted up an ingenious manner. She put in some tables running lengthwise of the room, upon which were placed some second-hand show-cases. Near the door was an old soda fountain, with glasses set around, and in various places a good supply of Red Jacket Bitters, Iron Bitters, Scotch Oats Essence, and other well known patent medicines which she had no trouble in borrowing. In the case was a goodly stock of Bacteria Cough Drops, in various styles of packages, and on the cases were a number of boxes of the Iodoform Corn Remedy, to give the store the required odor. Across the rear of the room was a table on which was an old pair of prescription scales, a paste pot, an old prescription book, and some shelves on which were various old chemicals and drugs, and near by some graduates, old bottles, vials, and so forth. Near the front part of the room were placed a half dozen chairs, by the side of the door hung a city directory; horse railroad time-tables were fastened near by; picture cards, almanacs, calendars, sample bottles of Kemp's Balsam and face powders were scattered about, and in a convenient drawer were placed a large supply of postage stamps, postal cards, envelopes and paper, with several dollars in change. A telephone was also put in, and everything prepared for business.

The next day, when the old gent was much depressed in mind and body, and it seemed as though his "sands of life were nearly run," she gently led him down stairs to the room, and seated him on a high stool back of the prescription counter, took the stoppers out of some bottles of valerianate of zinc and iodoform, and ran up and told the rest of the family her plan of action.

Returning, she rushed in and asked for ten cents worth of cough drops.

"Which kind?" said the old man, who was gazing wonderingly about the room.

"Bacteria," was the reply.

Her father came out in a dazed manner, handed them to her, took the money and put it in the drawer.

In a few moments his wife walked in and asked to look at the directory, while two of the younger children came in and asked for calendars and picture cards, and two of the servants hurried in and bought some stamps, inquired what time the next horse car passed, and if they might wait for it.

One after another the family came in, in a variety of disguises, mostly for stamps, and when the doctor called and bought two or three articles at cost-price, the old man was happy.

The next morning the young son of the gardener came and opened the store, and, after the arrival of the proprietor, spent most of the day in washing the windows, dusting and sweeping, broke two or three graduates, a half-dozen bottles and one of the show cases.

All day trade was lively in stamps, directories, almanacs, horse cars, cough drops and use of the telephone. Several neighbors, and some plumbers who were at work in the house at forty cents an hour, were impressed into service, the latter coming mostly for samples of Kemp's Balsam, and that night the broken-down man slept soundly, the first time for weeks; his appetite increased, and, the treatment being kept up, he grew fat on it. In a couple of weeks he gained twenty-nine and one-half pounds, and was then induced to take a trip south to Tallapoosa, which completed the cure.

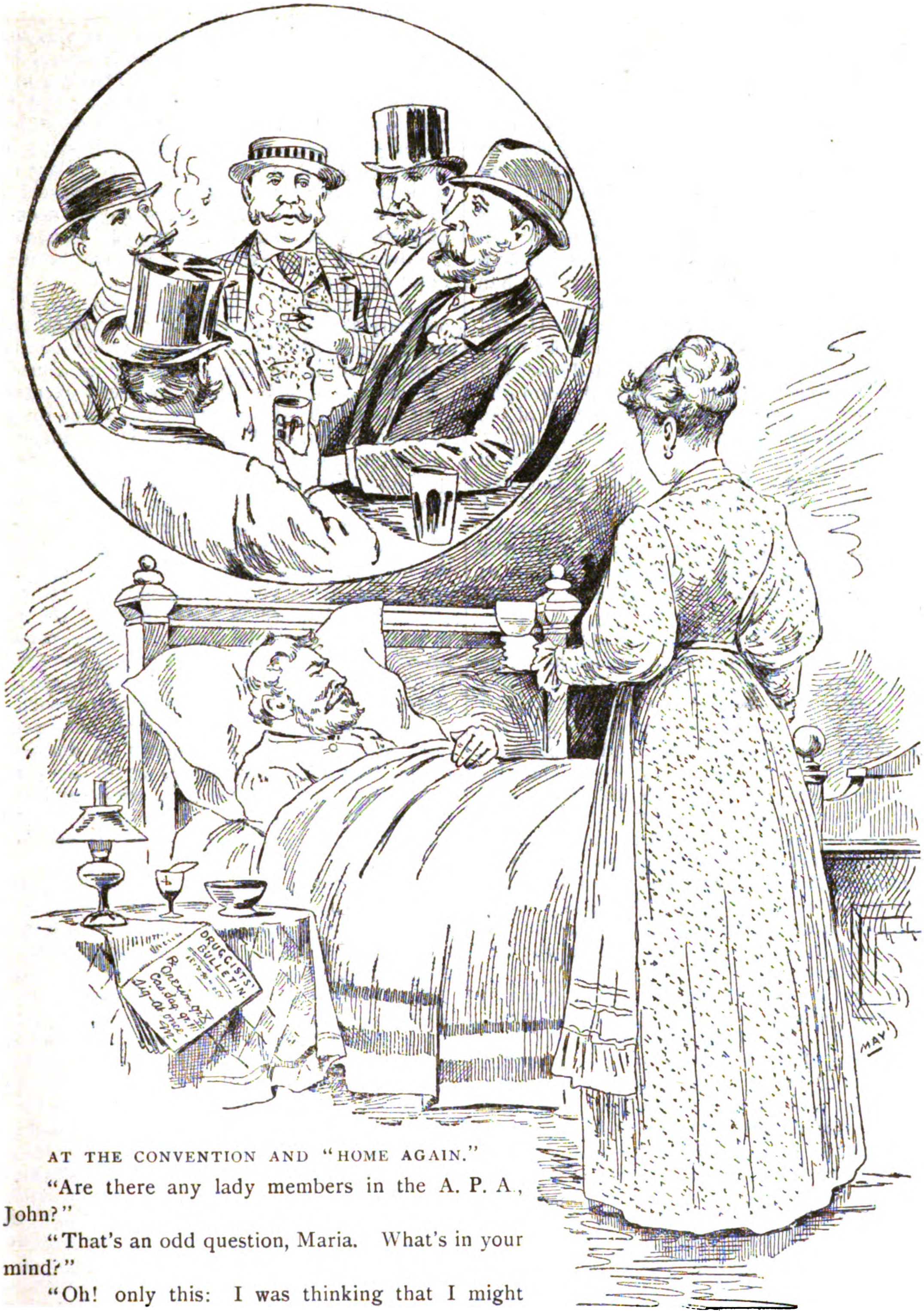
In two weeks the sale of stamps alone amounted to one hundred and ten dollars and seventy-one cents.

It was one of the most wonderful cases of recovery on record, and is positive proof that the drug business is a healthy one, and that you who are engaged in it should stick to it.

Other articles may be cut and prices drop, but the one great reliance of the modern pharmacist, the one article you may rely upon as not liable to be scalped by the dry-goods man, or by your competitor over the way, is the postage stamp.

The whisky and tobacco tax may be taken off, prices of camphor, insect powder, quinine, etc, may fluctuate, and possibly the price of antipyrin may fall, but rest assured, my dearly beloved brethren, that in the postage stamp trade the Government will protect you.

Therefore, don't get discouraged, but in your leisure hours emulate and imitate the little postage stamp, and stick, even if you get licked.—*Indiana Pharmacist*, July, 1890.



AT THE CONVENTION AND "HOME AGAIN."

"Are there any lady members in the A. P. A., John?"

"That's an odd question, Maria. What's in your mind?"

"Oh! only this: I was thinking that I might join, and so help you out on the bothersome *committee work* that always wears you out so when you go to the Conventions."

Abstracts and Translations.

Studies in Therapeutics—Assayed Galenical Preparations.

Dr. John Aulde, in the *New York Medical Journal*, Aug. 30th, 1890, calls attention to the importance of Assayed Galenical Preparations. We regret that we cannot present his article complete. The following abstract will convey to our readers the logical deductions he draws from his study of this important subject.

The advantages of assayed Galenical preparations must be apparent to the most obtuse observer; if not from the foregoing remarks, his own experience has convinced him that certain preparations are better than others, owing to their certainty of physiological action. The Committee now engaged in a revision of the United States Pharmacopœia will doubtless be guided to the conclusion that the advance of scientific medicine and the success of the practitioner alike depend upon the early adoption of processes for the determination of the active constituents of all Galenical preparations, where those constituents occur in the form of an alkaloid, a glucoside, or a neutral substance. Until such rules become obligatory upon the pharmacist, the work of the physician must to a great extent be a matter of guesswork; otherwise, the results which he desires from the exhibition of certain drugs of this class, when they are as expected, will be mere accidents, and in general anything but mathematically exact.

The rapid advances in other departments of science are sufficient to warrant us in insisting that the noble science of medicine shall not lag behind. The progressive spirit of the ninteenth century invites the medical man to take a step in advance, just as it has brought the surgeon from the darkness of ignorance and superstition into the light of truth and opened a new era in this department of medical science. Let this be the beacon which shall guide us to an advanced position in the use of drugs. Possessing medicaments which are exact and reliable in alkaloidal strength, the physician will attain greater skill in their administration, and the temptation to make combinations will gradually disappear. Too often combinations mean ignorance on the part of the practitioner, and unfortunately they are used at the expense of the patients' strength.

No physician can fail to appreciate the benefits which must accrue to his patients through the influence of reliable medicines. When called to see a patient in a distant country town, the first inquiry of the physician should be in regard to the reliability of the druggist; and when prescribing for a patient in a dilapidated portion of a large city, he should be particular to instruct his patient as to the druggist he ought to patronize. Happily, his selfish disposition and the welfare of his patient run in parallel lines. So long as the patient remains in bed, the doctor knows that his professional ability is not very highly rated; and besides, when the patient again goes on the street, he becomes at once a moving and talking monument of the professional skill of his physician; the *éclat* which follows a rapid recovery of an exceptionally interesting or exceptionally prominent patient is more to the physician than great riches. For these reasons, if not for those higher and holier motives which prompt men to face death for their fellow-men in times of sickness, the doctor is prompted to seek remedies that he can depend upon in the hour of need.

The objections urged against the plan suggested are not so formidable as its opponents would have us believe, nor are they insuperable. They are such as serve to break the force of the arguments against the method proposed, because they show beyond question the fallacy of the premises, and prove the uselessness of a system which is inefficient because of its irregularities. The opposition comes from sources least suspected, and, owing to the under-current of antagonism, the necessities of the physician must be more strenuously insisted upon than the overwhelming evidence in its favor would appear to require.

For example, it is alleged that no pharmacist of ordinary ability is capable of undertaking these delicate operations, and it is said also that, had he the capacity, it would require too much time and an unnecessary outlay for apparatus; but these are flimsy excuses where life is at stake. On the contrary, it is stated on authority of Professor Mew, of Washington, D. C., analytical chemist to the purveying department, U. S. Army, that any well-qualified druggist can, in the course of a few weeks, be thoroughly educated to do this work, and that the expenses of the outfit are comparatively trifling when compared with the increased advantages which would attend the introduction of assayed products. Again, it has been suggested that it would be an easy matter to prepare a finished product which would meet all the requirements in respect to alkaloidal strength by any known chemical process, through the addition of foreign substances which possess no medicinal value whatever; but, as no reputable pharmacist would be guilty of such sophistication, only a short time would elapse before the source of the spurious preparations would be discovered. The notion that such counterfeits could be placed in the hands of an innocent druggist, who should be held responsible unless he could show the preparation in the original package, is too absurd to be entertained for a moment.

Finally, it is strongly urged that if we are coming to alkaloidal therapy, it would be far better to discard the other products entirely; but there are several valid reasons why this plan can not be adopted at the present time. First, the physiological actions of alkaloids in many instances are not fully understood; consequently, further investigation is required. Secondly, quite a number of alkaloids do not, as previously stated, represent the physiological action of the crude drug, owing to the presence of principles which neutralize one another; while some alkaloids, like cannabine, are too expensive even for physiological investigation. Possibly they may in the future be produced synthetically at a cost low enough to permit their general employment. Some alkaloids, such as those belonging to the Solanaceæ, can not be used continuously for any length of time, owing to their tendency to accumulate in the liver and obstruct its functions. While admitting that many of the active principles of vegetable origin are used with satisfaction, and that there is no doubt of their safety, I must insist that such usage can have no direct bearing upon the question, where these principles do not represent the physiological actions of the crude drug, or where they can not be produced in such quantity, and at an outlay which will enable their use to become general.

Clinical experience is, therefore, the final and crucial test which must guide us in determining whether or not we are to use Galenical preparations which have been submitted to an assay process. Those opposed to the method must be regarded as opposed to progress; they are entitled to be classed with a large number of physicians, now passing from the stage, who knew but little of the possibilities of drugs from a scientific standpoint, who practiced wholly on an empirical basis, firing shotgun prescriptions into their patients from day to day.

We are not in a position to estimate with any degree of accuracy what a great blessing physiological investigation has been to mankind, nor can we appreciate how human life has been prolonged through this apparently insignificant agency; but the time is approaching when the practice of physic will be conducted upon a surer footing, when the physician will be able to calculate with a reasonable degree of certainty the effect which any particular drug will produce; and he can give the nurse instructions which will enable her to discontinue one preparation and replace it by another at the proper time, just as we do now in controlling the temperature and pulse in typhoid, scarlatina, and in acute forms of disease. The stepping-stone toward accomplishing this achievement is to be found in the use of Galenical preparations made to conform to a regulated standard of alkaloidal strength.

Almost daily-recurring incidents might be recorded which illustrate the truth of the propositions here advanced, but a few will be quite sufficient. Some time ago, a professional friend complained to me that, even when following my directions to the letter, he could get no satisfactory results from the use of cannabis Indica for the relief of supra-orbital neuralgia and certain forms of dysmenorrhœa. When asked whose manufacture of the drug he had employed, he could not tell. I advised him to use the so-called "normal liquid," and since that time the treatment of these affections, where this drug was indicated, has been invariably successful. Quite recently I read some suggestions regarding the use of gelsemium in the form of a fluid extract, the dose being given at from ten to twenty drops, and came to the conclusion that the preparation used in this manner must be practically inert, and that a teaspoonful might be taken with safety. With the use of "normal liquid" gelsemium, the cases are rare indeed where ptosis cannot be produced in two hours by the judicious employment of ten drops. Within the past two weeks I had, with an exceptionally practical and reliable druggist, a conversation which turned upon the subject of ergot. Taking down the shelf-bottle, I pointed to a precipitate in the form of a poultice, when he informed me that it was impossible to keep this preparation any length of time without precipitation. Personal observation enables me to contradict this statement, as I have kept for more than a year a small bottle of the normal liquid, and there are no indications of a precipitate.

About two months ago, a physician wrote me that he had used rhus toxicodendron, in both large and small doses, in nearly all the disorders for which I had recommended it, and had utterly failed to notice any result whatever, but, like my friend with the cannabis Indica, he did not know whether the preparation used was the fluid extract made from the dried leaves, or the tincture made from the fresh leaves growing in the shade and gathered during the period of efflorescence. A sample which I immediately sent him relieved in every case, including a rheumatic trouble from which he had long suffered himself, and he was therefore prepared to champion the drug. This preparation, it should be remembered, is one which depends for its activity upon the presence of a volatile substance, toxicodendric acid, and the subject is introduced here as an illustration of the facts already pointed out—viz., that the preparation of drugs for the relief of disease cannot receive too much care. It shows, too, that drugs, to be efficient, must be prepared according to certain recognized methods; hence it is extremely doubtful if in their preparation inexperienced clerks can be depended upon.

Both aconite and belladonna are drugs which are extensively used in general practice, but, as found in the shops, are the most uncertain of all in the Pharmacopœia with the possible exception of the tincture of opium. The first of these is a remedy of prime importance in the early stages of all inflammatory affections in which mucous surfaces are involved, and the failure to obtain promptly the physiological effects of the drug means an attack of pneumonia, amygdalitis, or other serious disorder. The physician prescribing this drug especially desires a reliable preparation, because after the first twenty-four hours, when his patient is seen on the second day, the period for its administration may have passed, when efforts must be made to conduct the disease to a favorable termination rather than control it. With the exhibition of reliable preparations, attacks of this character in the acute stage may frequently be aborted.

What is true of aconite is notably applicable to preparations of ergot. With his hand upon the uncontracted uterus, when every throb of the heart means a gush of blood which may possibly be the last, when the vision fails, and the recently delivered woman raises a feeble but piercing cry that she is dying, then it is that the physician thinks of the quality of his ergot. It is his sheet-anchor. The movements of the nurse in procuring it may be slow, the patient may hesitate, but the physician knows that if once the drug is taken the danger is averted. There are other instances in which the necessity for reliable medication is quite as great; and when those who oppose the method assert that such work as I have suggested is unnecessary because it takes too much time, that it will require the pharmacist to increase his stock of intelligence, and increase by a few dollars his outlay for apparatus, I most respectfully submit that it is a sad commentary upon the boasts we are accustomed to make regarding our modern civilization.

In conclusion, therefore, I desire to offer my plea for the employment of assayed Galenical preparations, and, as the normal liquids have served me well, I commend them to the attention of my brethren in the field, believing that they will be instrumental in guiding them to a more scientific use of drugs. By their use for several years past I have been able to conduct the administration of medicines with greater precision, and at the same time have learned to employ drugs of this class with due regard to their physiological actions. As a consequence it seems to me that my medical horizon has widened, and as my knowledge of diseased conditions increases, my respect for drugs improves. As a result of clinical observation, I recommend the use of small doses, because the small doses, given at short intervals, at least in acute cases, more quickly bring the disease under the control of the physician, while, with medicines which are unreliable, the results are always uncertain. If the attendant is interested in prolonging the patient's illness, haphazard medicaments are a desideratum; but if he desires the recovery of the patient, and possesses selfish motives which prompt him to add laurels to his professional reputation, the remedies which have been submitted to a chemical or physiological test to determine their activity are the only ones he will be willing to accept.

It would be interesting to say a word in regard to the precautions to be observed in the preparation of assayed Galenical products, but it is believed that enough has been said to establish a good case, as the evidence is substantial and complete.

Cascara Sagrada and Frangula Barks.*

The Austrian Pharmacopœia, seventh edition, has, as is well known, adopted the American Cascara Sagrada (*Rhamnus purshiana*, DC.), besides the indigenous frangula bark (*Rhamnus frangula*, Linné), and it would certainly be of practical interest to establish the distinguishing differences between these closely related drugs. I described the cascara bark several years ago (*Pharm. Centralhalle*, 1882), but on renewed examination, I find several new characteristic features.

The two barks are tolerably different in appearance. The quills of the frangula are 20 to 30 c. long; are of a dark blackish-brown color on the outside, with numerous flat, bright, corky excrescences traversing the bark transversely; on the inside, reddish-yellow, very slightly striated, almost smooth. The bark is surprisingly light, scarcely more than 1 mm. thick, and in fracture short-fibred.

The quills or groove-shaped pieces of the purshiana are shorter, seldom more than 12 c. long, grayish-brown on the outside, also with numerous, but broader and almost obliterated, bright, corky excrescences; on the inside, darker, frequently almost black, and distinctly striated. The bark is noticeably heavier, of 5 mm. in thickness, very short-fibred, in fracture occasionally smooth.

Both barks have a bitter taste, more especially the purshiana. In chewing, the saliva is colored faintly yellow.

The differences touched upon are of such a character that they can be regarded as characteristic of each sample of drug under all circumstances. They are only in a very small degree based upon internal causes dependent on the anatomic structure, but are rather dependent on external circumstances which are more or less accidental —whether, for example, the drug is derived from the bark of the branches or the trunk; whether from young or old trees; whether from live or dried trunk, varying with the time of gathering; whether and with what cryptogams it is covered; under what conditions it is dried and stored. For these reasons the determination of large natural specimens may become difficult and uncertain. In the case of goods that have been cut, the difficulty is naturally greater, and whether a cut purshiana is mixed with frangula, can frequently not be decided by a microscopical test.

However, by microscopical examination, large single fragments may be identified with certainty, although both barks, belonging to the same genus, are also very similar in anatomic structure. In place of the epiderm there frequently appears a periderm which is formed from the external layer of cells of the primary bark.*

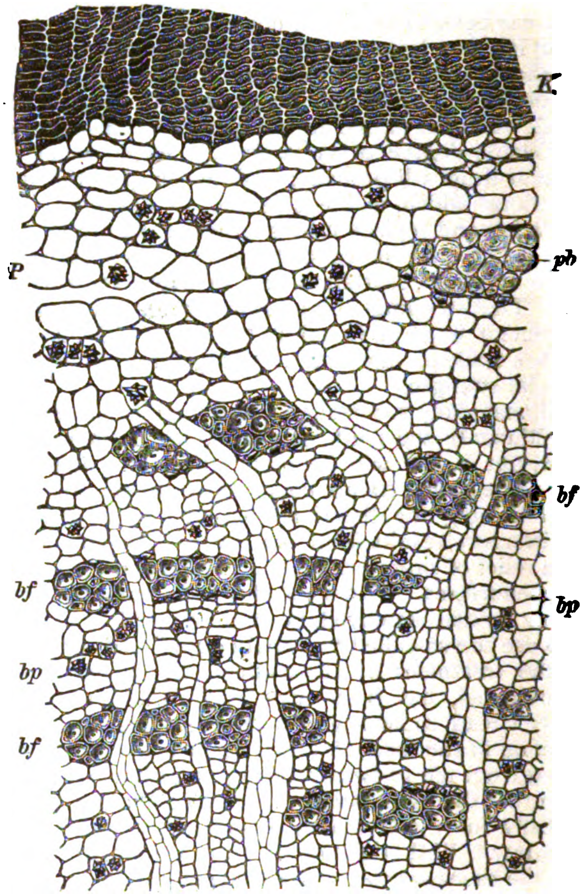


FIG. 1.

The periderm belongs to the category of the typical leather cork (Fig. 1, *K*). It consists of small, flat, rather coarse-walled, but not sclerosed, cells, which in the older layers are filled with a red-brown mass; the younger living cork cells contain a blood-red mass. Therefore, even under the lens one can see in a cross-section a dark line of thin cork, sharply bounded by the greenish-yellow bark.

The collenchymatic primary bark in the outer portion contains, as usual, an abundance of crystal tubes. The primary bundles of bast fibre are pressed far apart. As no phelloderm is formed, they are superficially separated from the cork only by a few cell-rows (Fig. 1, *pb*). In purshiana we find larger or smaller sclerosed parenchymatous groups, never in frangula. The stone-cells are only slightly enlarged, very strong, often thickened to the point of disappearance of the lumen, colored yellow, delicately layered with branching pore-channels. They are surrounded by individual crystals, while in the thin-walled parenchyma crystal druses predominate. Some of the stone-celled groups are so large that upon the smooth surface of a cross-section they may be easily observed in the form of yellow spots of the size of a poppy-seed. They are not confined to the middle bark, but are also to be found in the bast layers (Fig. 2, *st*).

---

* From a report of the Pharm. Institute of the University of Innsbruck, by J. Möeller, in *Pharm. Post*, March 23d, 1890.

* Möeller, Anatomy of Tree Barks, Berlin, August, 1882.

The inner bark shows on the cross-section under the microscope a fine, not very distinct, square surface. In purshiana many of the pulpy layers may be recognized by the naked eye, for they are four to five cells broad, while in frangula they consist of rows of only two to three cells. The bast layers contain in the outer (older) no isolated bundles of bast fibre; through the interior the bast fibres form thin but bright scales or plates, which extend over several bast layers. The pulpy layers which intersect them are neither pressed together nor sclerosed. The formation of these bast fibre plates is repeated at definite intervals, and thus arises a tangential arrangement of layers which, in connection with the pulpy layers crossing them at right angles, imparts a tissue-like appearance to the whole. The bast fibres are very long, thin, with very narrow-pointed lumen, and distinct primary membrane. The thickened layers are almost colorless in frangula, in purshiana lemon-yellow; the former are also colored intensely yellow by potassic lye. The bundles of fibres are, as is shown by longitudinal section, covered on all sides by crystal cells with a single crystal, similar to the oak or willow bark. The soft bast is also layered, parenchymatous layers alternating with sieve-tubes. In purshiana this arrangement of layers is specially distinct, because the sieve-tubes are here considerably lighter than are the parenchymatous cells. The sieve-tubes bear several large sieve-plates at the strongly inclined end surface; on their radial side surface, smaller, fine-pored sieve-fields. In barks which have been gathered in the period of quiescence, the systems of plates are covered with thick bolster-like callosities. In the bast parenchyma crystal druses are numerously distributed in the cell-fibres; in the pulpy layers, no such crystals are to be found. All the parenchymatous cells, devoid of crystals, hence also the pulpy layers contain a formless, yellowish-green (frangula) to brown (purshiana) mass, which in a slight measure dissolves in cold water, more completely in alcohol, accompanied by formation of a yellow color, and does not react with tannin. In alkalies, the contents assume a beautiful purple, and are quickly dissolved. As a result of the micro-chemical reactions, it may be said that both barks contain the same constituents (frangulin).

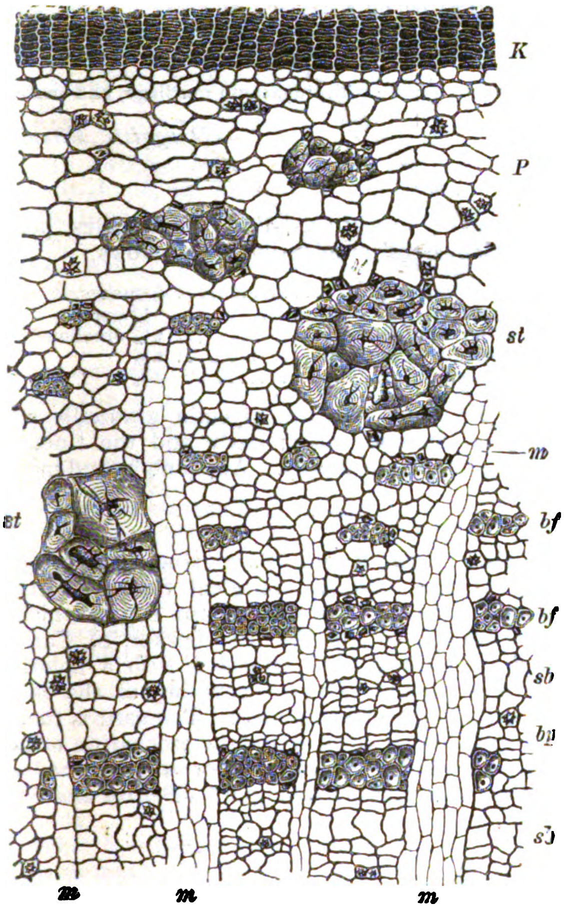


FIG. 2.

The distinguishing differences of the two barks are accordingly of such a nature that even when powdered, their origin may be determined. The purshiana is characterized by clumps of stone-cells, by yellow bundles of bast fibre, and by broad pulpy layers. Naturally, it will be easy to tell whether purshiana has been added to a frangula powder, as in the latter no stone-cells should be found. The more important practical question is, of course, whether purshiana powder is adulterated with the much cheaper frangula. Decision is difficult, but not impossible. In the powder of Cascara Sagrada on examination in water, no colorless bundles of fibre may occur, and the contents of the parenchyma cells are usually (not always) brown, strikingly different from the contents of the cells in frangula which recall the color of chlorophyll.

New Process of Production of Indelible Anilin Ink.

This new process gives an ink adapted to be used for marking fabrics, and while the ink is of a violet color when in the bottle, it will turn into a perfect black by oxydation after having been applied.

In carrying out the process about fifty grammes of anilin oil (containing more or less toluidin) are taken and mixed with about twenty cubic centimetres of water, and with about twenty-five cubic centimetres of hydrochloric acid. The mixture is placed in a suitable vessel, which is subjected to the action of heat (a steam-jacket kettle being preferably used) until the anilin is entirely dissolved. Then add to the solution about ten grammes of chloride of copper and carry the heat to the boiling-point. In the process as thus far carried out, the quantity of anilin is, as will be seen, about double the quantity of the acid. Therefore, the anilin will not become saturated by the acid and the mixture will contain free bases.

The mixture will gradually assume a violet color; and when at this stage, add about fifteen additional cubic centimetres of hydrochloric acid and about ten grammes of bichromate of potash, small quantities of these substances being alternately poured in. The potassium chromate serves as a slow oxydizing agent, inasmuch as the chromic acid is not in a free state. If during the introduction of the bichromate of potash the effervescence becomes too violent, the heat is shut off. Finally add about ten to fifteen additional cubic centimetres of hydrochloric acid, which has for its object to bring all violet coloring-matter, which may have separated from the liquid, into solution.

The separation of some of the violet coloring-matter is due to the fact that during the process of the oxydation, as above described, the acid to a certain extent is absorbed, and therefore only one portion of the violet coloring-matter remains in solution, while the other portion is precipitated. The product is now filtered to separate any small particles of solid matter that may have formed. The ink is now complete and ready for use.

The violet coloring-matter which is produced and made use of in this process is the spirit-soluble nigrosin. It has been found that this coloring-matter is soluble by the addition of hydrochloric acid in the presence of anilin-toluidin salts. Thus by reason of the fact that during the process of the actual formation of the color the bases are kept in excess of the acids, a violet coloring-matter is produced, which is soluble in acidulated water or in the acid added last during the process in the presence of anilin or toluidin salts.

This result would not be obtained if the acid used in the process had been added at once. By the use of an excess of base at such actual formation of the color, only a part of the anilin and toluidin is directly oxydized, while the remaining portion serves to keep the prepared dye in solution, and serves the purpose of adding to the color by being converted into insoluble black on the fibre being exposed to the air. The process will thus produce a violet soluble coloring-matter in contra-distinction to an insoluble precipitate. After the ink has been applied the oxydation is completed by the air, and a pure black indelible color is obtained.—*Paper and Press.*

Artificial Phenic Acid.

M. De Luynes presented recently to the Societé Nationale d'Encouragement pour l'Industrie, on behalf of M. Reines, specimens of synthetic phenic acid prepared at Neuville-sur Saone at the branch works of the Baden Anilin Company. This acid is quite colorless; it melts at 41°, boils at 178°, and yields limpid solutions. Its slight odor differs from that of the purest phenols of commerce. On account of its properties and its low price it is likely to supersede ordinary phenol in its applications to medicine, to the preservation of putrescible articles, and in the manufacture of chemical products.—*Scientific American*, Sept. 20th, 1890.

Pharmaceutical Progress.

GLYCERIN AS A REMEDY FOR CORYZA.—Dr. C. Weber (*Therap. Monatsheft*) has found, by experiment, that glycerin is excellent in acute coryza, if painted frequently over the affected membrane. It also acts palliatively in chronic hypertrophic rhinitis by softening the crusts and relieving congestion.

ANTI-MOSQUITO PASTILES.—

	Parts.
Charcoal	500
Powdered nitre	80
Carbolic acid	40
Insect powder	250

Form into a paste with tragacanth mucilage, and make into pastiles.

—*Druggists' Circular.*

A USEFUL FORMULA.—For tan, freckles, pimples, etc., Dr. Chevasses' preparation is as follows:

℞	Rose water	6 ounces.
	Glycerin	½ ounce.
	Bitter almond water	2½ drachms.
	Tincture of benzoin	2½ "
	Borax	1½ "

Rub the borax with the glycerin, gradually adding the rose and almond water; lastly add the tincture of benzoin, agitating constantly. Apply night and morning.

A NEW AND RAPID TEST FOR SUGAR.—"At a meeting of the Austrian Surgical Society, Professor Nothnagel showed a handy test for sugar, which had been forwarded to him by Dr. Becker, of Cario. It is simply a visiting card saturated with a solution of potash, over which is drawn a covering of the sulphate of copper, and the urine applied. The card is then laid on the globe of a lamp, when the saccharine urine will color the card brown, and this color will be the deeper the greater the amount of sugar."—*British and Colonial Druggist.*

REMEDY FOR CORNS.—Corns can be successfully treated by painting them with the following mixture:

℞	Acidi salicylici	½ drachm.
	Acidi lactici	½ "
	Collodii	½ ounce.

M. Sig.—To apply by means of a brush.

The foot should be kept for a few minutes in very hot water before each application (in order to soften the corn, and to make it thus more penetrable for the acids). The adjacent healthy skin should be protected from any irritating action of the acids by powdering with iodoform. Even very large and thick horny deposits on the sole are said to fall off *in toto* after six or seven applications.—*The Doctor.*

Action of Cod-liver Oil.—"MM. Gautier and Mourgnes, in a recent communication to the Academy of Sciences, discussed at some length the reasons why cod-liver oil is superior to other fats as a therapeutical agent, and arrived at the following conclusions:

1. It is more easily assimilated, owing to its containing free fatty acids and some biliary matters which render its emulsion specially easy when it comes in contact with the pancreatic juice.

2. It is rich in phosphates, phosphoric acid, lecithin, and phosphorus in organic combination; the phosphorus, especially in the last-mentioned form, is very readily assimilated. The small amounts of bromine and iodine being also present as organic compounds exercise a beneficial influence on the general metabolism.

3. The alkaloids present—butylamin, amylamin, morrhuin—and morrhuic acid stimulate the nervous system, increase the amount of sweat and urine, and act as nerve tonics."—*British Medical Journal.*

Rapid and Economic Preparation of Aristol.—M. Louis Boulé, in *Répertoire de Pharmacie*, p. 355, Aug. 10th, 1890, describes the preparation of this agent as follows:

Where Aristol is to be substituted for iodoform, the price is an obstacle to its general employment. The different formulæ thus far supplied, explain its high price.

It has occurred to me that it would perhaps be well to publish the formula which I have established and adopted after a number of trials:

(*A*) **Crystallized thymol.............**
Caustic soda.....................
Iodide of potassium............ää grammes 5.00.
Distilled water, q. s. to make..... grammes 50.00.

Heat slightly until solution is complete; permit to cool.

(*B*) **Concentrated solution of hypochlorite of soda............................ grammes 250.00**

Pour solution A into solution B and agitate vigorously. Aristol precipitates, forming a magma which liquefies a little later. About a quarter of an hour is required for the reaction. Place the whole on a filter or on close-woven linen, wash with distilled water and dry in the shade.

Solution B is Labarraque's solution which contains five times as much chlorine or 10 times its volume of this gas.

The dry chloride of lime employed in its preparation should bear the title indicated by the Codex.

The solution which I have indicated is that which has given me the best results.

Iodol as a Substiute for Iodoform.—Dr. Szadeck (*Wiener Med. Presse*, 1890, Nos. 8 to 10) in his investigation of the action of iodol, employed as a topical remedy in venereal and specific ulcerations, has arrived at the following conclusions:

1. The gummy, tertiary ulcerations are cured very rapidly by iodol, which should then be considered as a specific agent in syphilitic lesions.

2. Iodol acts with less efficacy than iodoform on soft chancres and ulcerated buboes. In most instances, the duration of treatment is notably longer when iodol is used as a topical remedy. Aside then from various exceptions occurring in private practice, we may infer that venereal ulcers should be treated by iodoform rather than by iodol, although the latter agent has the advantage over iodoform, of being completely inodorous.

The author has employed iodol as a topical agent in 21 cases of soft chancre, 16 cases of gummy ulceration and 7 of ulcerated buboes. These ulcers were first well washed with a solution of sublimate.

Besides, with 25 syphilitics, of whom five exhibited secondary symptoms and 17 tertiary phenomena, the author tested the effects of iodol administered internally in the form of powder, each dose of powder containing 50 centigrammes to 1 gramme of iodol. The daily dose varied between 2 and 4 grammes per diem. The results were very favorable, save in two cases in which the patients were attacked by hemiplegia. Iodol may be substituted for iodide of potassium in cases in which the latter is ill tolerated, or when the treatment should have a very long duration. When the medication is to have a very rapid action, iodide of potassium is superior to iodol. The contraindications to the employment of iodol are the same as with other preparations of iodine.

The Popular Use of Harmful Drugs.—In a very instructive paper published in the *Journal of the American Medical Association*, Dr. I. N. Love discusses the merits of some of the recent antipyretics, and concludes with the following remarks, which we commend to our readers.

"Acetanilid, while of great value and surely safer than antipyrin, is no exception to the rule that obtains with all drugs. It should be handled carefully, administered judiciously, and under no circumstances should the public be educated to its use.

"The time has come for the profession to call a halt and endeavor to check the reckless use of medicines upon the part of the people. The secular press, in disseminating information regarding the action of drugs, gleaned from medical sources, is to a large degree responsible for the drugging habits of the people; but the medical profession is not blameless in the matter, in that many physicians verbally advise the purchase of many drugs by their patients, and carelessly and thoughtlessly impress them with their harmlessness.

"Medicines, which are nothing more than the tools by which the physician hopes to accomplish certain ends, should no more be left in the hands of an uninformed lay public, to use at their pleasure, than should the equipments of a surgeon's office or the accoutrements of a standing army (all intended, if properly used, as a protection to the lives of the citizens) be recklessly placed in the hands of children, or those unskilled in their use.

"If the members of our sister profession of pharmacy do not become imbued with the above thought, and act upon it, physicians may be forced to supply themselves with a part, at least, of the medicines needful to cope with disease, feeling that the attending inconvenience will be more than compensated by a knowledge of the fact that they will have a more definite control over the drugs administered to their patients."

COOLING OINTMENTS are defined by Unna as mixtures of fat and water which, applied to the skin, produce a sensation of cold, owing to the evaporation of the water. They are to be preferred to the usual fat ointments which prevent the normal water-evaporation and which are often of injurious action. Lanolin, owing to its ready miscibility with water and aqueous solutions, was thought to be the best base for such ointments, but experiment did not confirm this; its effect is cooling at first, but this quickly disappears and gives way to a sensation of warmth. It was found that mixtures of lanolin and fats mix with large quantities of water, and these mixtures had a permanent cooling effect. The proportions of *anhydrous* lanolin, fat, and water are, 10, 20, 30, for cooling ointments. Lanolin-fat-ointments,with a maximum amount of water, are called *cream ointments*, owing to their appearance. *Ungt. refrigerans:* Anhydrous lanolin, 10; benzoinated lard 20; rose water, 30. Uses: Same as cold cream. *Ungt. Refrigerans aquæ calcis:* Anhydrous lanolin, 10, benzoinated lard, 20; lime water, 30. Uses: In burns. *Ungt. refrigerans plumbi subacetici:* Anhydrous lanolin, 10; benzoinated lard, 20; solution of subacetate of lead, 30. Uses: Same as Goulard's cerate. *Ungt. refrigerans zinci:* Anhydrous lanolin, 10; benzoinated zinc ointment, 20; rose water, 30. Used in place of zinc ointment. *Ungt. refrigerans ichthyoli:* Anhydrous lanolin, 10; benzoinated lard, 20; distilled water, 24; ichthyol, 6.

Cremor refrigerans, Cremor refrigerans aquæ calcis and *Cremor refrigerans plumbi subacetici* differ from the corresponding *ointments* in containing 60 parts of the aqueous liquid instead of 30 parts. It is recommended to prepare all of these ointments extemporaneously.—(*Therap. Monatsh.*) *Pharm. Centralhalle*, 1890, 303. *Amer. Jnl. of Pharm.*, July, 1890.

ETHEREAL SKIN PREPARATIONS.—Following his article in the *Lancet* on the use of ethereal tincture of capsicum as an application for rheumatism and gout, Sir James Sawyer now advocates the more general use of ethereal preparations in medication of the skin. After showing how ether is active in dissolving the sebaceous secretion of the cutaneous surface, thereby giving a better chance for the action of the medicament, he states that, after examining a large number of drugs, he has selected belladonna, iodine, and menthol, besides capsicum, as suitable for external therapeutic employment in the form of ethereal tinctures. Ethereal tincture of belladonna is made from belladonna root, with camphor, of the same strength as the belladonna liniment of the Pharmacopœia, using the official pure ether in its preparation instead of rectified spirit. The result is a bright tincture of a brilliant "apple-green" color. This tincture is useful as a paint for the skin in cardiac and other cases in which belladonna plasters or liniments would otherwise be employed. Ethereal tincture of iodine is made of the same strength as the official tincture of iodine. The ethereal tincture of menthol is a solution of 1 drachm of menthol in a fluidounce. This preparation is an efficient means of using menthol for its local therapeutic effects, especially for the removal of superficial neuralgic pains. It should be lightly painted over the painful part. The quick evaporation of the ether gives a grateful sense of coldness, which supplements the analgesic action of the menthol, and allows the easy application of a succession of coats, which leave pure menthol in a finely-divided condition upon the skin. For the application of ethereal tincture of menthol a brush of glass should be used. When the meshes of the brush become clogged with menthol by the evaporation of the ether of the preparation, they can be freed in a moment by dipping the brush into the tincture. We may add that these suggestions are by no means novel. Ethereal tincture of belladonna has a parallel in the chloroformic liniment, but Sir James Sawyer claims advantages for ether over chloroform. Ethereal tincture of iodine is a very old preparation, and ethereal solutions of menthol have also been used for neuralgia.—*Chemist and Druggist*, Aug. 9th, 1890.

HYPODERMIC INJECTIONS OF QUININE.—Beurmann & Villejean, in *L'Union Pharmaceutique*, for August, 1890, write the following on this interesting topic:

The bichlorhydrate is the most soluble of the salts of quinine; it is as rich in alkaloid as the monochlorhydrate; its solution in distilled water may be preserved without change; it can be employed without any preliminary precaution, and is sufficiently concentrated to permit the injection of 50 to 75 centigrammes of active salt. There is, accordingly, no need of multiplying the injections which, however, do not produce anything more than a slight pain, and do not give rise to any accidents, either local or general.

The solutions of bichlorhydrate of quinine are, therefore, incontestably superior to all others, and we do not understand why their advantages have not been recognized by all those who wish to administer quinine subcutaneously. Those of our teachers and colleagues who have had recourse to our solution, have been surprised by the results obtained; we cite, in particular, Profs. G. See, Laboulbend and Grancher; Drs. Letulle and Chantemesee, physicians at the hospitals.

To avoid all trouble to our confréres who wish to try it, we will state that the solution which we have regularly used, is as follows:

Bichlorhydrate of quinine............	grammes 5.00.
Distilled water, q. s. to make..........	grammes 10.00.

(1 cubic centimetre represents exactly 50 centigrammes of bichlorhydrate.)

In the absence of solid bichlorhydrate, the pharmacist can utilize the basic chlorhydrate of commerce, and prepare in a few minutes a solution identical with the preceding one, by the following method:

Mix with distilled water a certain quantity of hydrochloric acid, pure, until the liquid exhibits by the urinometer a density of 1.043 + 15°. Place in a small graduated test-tube 5 grammes of basic chlorhydrate of quinine; add 5 cubic centimetres of the preceding acid solution; finish by adding enough distilled water to make 10 cubic centimetres and filter.

This solution may be made up in quantity, for it keeps well; it is very acid toward litmus, but not caustic; it contains no free hydrochloric acid, the foregoing quantities having been calculated to exactly transform the basic chlorhydrate into a chemically neutral bichlorhydrate.

Process for the Rapid Preparation of Double Mercurial Ointment.—M. Passerieux, in *Bulletin de la Société de Pharmacie de Bordeaux*, suggests the followin formula:

℞ Benzoinated lard...........	100 grammes.
Mercury....................	100 grammes.
Oxygenated water, q. s. (about 10 drops).	

Mix a small quantity of lard with the mercury, which is first placed in a mortar, and add drop by drop the oxygenated water, stirring continually until the complete disappearance of the metal takes place. Then add by fractions the remainder of the fatty substance.

Ten drops of oxygenated water amply suffice for the proportions above given; hence it is to be added only as needed, and in quantity sufficient only to dilute the mercury.

By the aid of this process, we obtain in 20 minutes or more a mercurial ointment which, subjected to the tests generally recommended (friction between two surfaces of filter paper, examination under the lens, etc.) does not permit the discovery of the least metallic globule.

A sample of ointment thus obtained, and exposed for some time in a vase, not tightly closed, did not permit us, in comparison with a specimen obtained according to the Codex and placed in the same conditions, to observe a more rapid alteration of the fatty substance in the one than in the other. Owing to the rapidity of its preparation, the first permits us to make only the stock required, and accordingly to have it always fresh.

Moreover, its color is as deep as that of the official unguent, provided we proceed with care—that is to say, triturating at first with only a small quantity of lard, adding the oxygenated water only as needed, and taking care to add the fatty substance little by little.

Prepared in too great haste, its color is paler.

It remains to be stated, that oxygenated water has been recently prescribed largely by physicians, and almost all pharmacies have stock.

P.S.—We need hardly add that we mean by oxygenated water the simple dissolving of oxygen in water under pressure, and not the oxygenated water of the chemists or peroxide of hydrogen (H_2O_2).

Catalpa Speciosa (*Warder*).—The author employed, in his experiments, a tincture prepared by himself from the inner bark of the root and body of the tree. The maceration method was employed, an ounce of the bark making an ounce of the tincture. His experiments were on two healthy adults, and from them he deduced the following conclusions:

1. That with drachm-doses of the tincture, unless continued for a considerable time, the system is but slightly affected.
2. That if taken in large enough doses, it will slow the heart-beats, weaken its action, and finally produce an intermittent pulse.
3. That it acts on the alimentary secretions, producing a mild cholagogue, cathartic effect.
4. That in sufficiently large doses it produces nausea, and probably, in still larger doses vomiting. It is probable that in this way it acts beneficially in asthma and bronchitis.

In its clinical action he has found it most beneficial in those cases of pneumonia where the secretions of the alimentary canal are inactive and in which there is also a rapid and full pulse. It reduces the pulse-rate and tension, and increases the biliary secretion. Two drachms of the tincture should be given every one to three hours.

During the past winter he has used it often in cases of epidemic influenza with high fever, and especially where the inflammation extended into the frontal sinuses. In all of these acute cases he has never ventured to continue the remedy aftet the first two or three days, and has given it for this period only in sthenic cases.

Mr. E. O. Rau has made an imperfect chemical analysis of the seeds; he obtained from them tannin and a bitter crystalline principle. Mr. F. K. Brown, by a more thorough analysis of the seed, found a resin, tannin, sugar, a fixed oil, and two undetermined crystalline bodies. It is reasonable to suspect that the medicinal qualities reside in the crystalline principles mentioned in the above analyses. It remains for chemists to tell us in which part of the plant they are most abundant, and, if possible, to isolate them, so that they may be used for further and more definite experiments.—J. Schenck in *Med. News*.

New Process for the Production of Carbon.—Hermann Guenther has described a process for the carbonization of wood for the purpose of producing *carbo ligni* for pharmaceutical and industrial uses which is now receiving considerable attention in Germany. The author's object is to do away with the difficulties met with in endeavoring to obtain a perfectly homogeneous article of constant composition; and these difficulties are certainly very great when the material operated upon is not coppice-wood, but straw, peat, residues of hemp, linen, and other fibrous matters which accumulate annually in various branches of manufacture. Mr. Guenther admits that these difficulties are partially overcome by the use of superheated steam; but another obstacle arises in the cooling of the material thus carbonized. At present it is necessary to allow the incandescent charcoal to cool in the cylinder which contains it, and, of course, let the cylinder cool; or, it must be extracted from the latter and introduced into some special kind of cooling receptacles. In both cases the cooling is effected very slowly from the exterior to the interior of the mass. The air supplies the carbonized mass with a superficial layer of moisture, and this unequal saturation of the porous product renders it particularly liable to spontaneous combustion while it is being stirred or triturated—hence liability to serious accidents. Mr. Guenther proposes to inject heated carbonic acid while the carbonization is in progress, and the same acid gas cold to bring about the cooling of the mass when carbonization is completed. The gases, deprived of oxygen, which issue from lime-kilns can be utilized for this purpose, or similar non-oxydizing gases from other sources. It is affirmed that carbonization and cooling both proceed more rapidly in these conditions, and the carbon thus produced, being saturated with carbonic acid gas whilst it is in its most porous condition, is prevented from absorbing air when it comes in contact with the atmosphere. Thus the danger of spontaneous combustion is said to be completely avoided. The current of warm gas, which flows through the cylinders during the whole time of carbonization, causes the latter to proceed with perfect regularity, even to the interior of the mass; and the product can be cooled down at any moment by substituting cold for warm carbonic acid gas.—*National Druggist*, Aug. 15th, 1890.

MEDICATED SOAPS.—Dr. Walter G. Smith read a communication upon Medicated Soaps at the recent meeting of the British Medical Association. He drew attention to the differences in preparations and properties of soda and potash soaps, and pointed out the injurious effects upon the skin of an excess of alkali, which removes not only the greasy dirt, but also robs the skin of its natural fat. This is derived from two sources—(*a*) the glands, sebaceous and coil glands; (*b*) the eleidin, of the epidermis Over-fatty (superfatty) soaps—*i. e.*, containing some unsaponified fat—represented a real advance in the preparation of good soaps for medicinal use. The composition of "grund seife" (basis-seife) is:

Beef suet	59.3 per cent.
Olive oil	7.4 "
Soda lye	38 degrees.
Beaumé	22.2 per cent.
Potash lye	11.1 "

This can be medicated by a variety of drugs—*e. g.*, resorcin, ichthyol, sulphur, mercurials, etc. The detergent action of soap was explained, and the modes of using medicinal soaps commented upon.

Dr. M'Veagh said that to dermatologists medicated soaps had many recommendations for the treatment of parasitic diseases, and he expressed great faith in corrosive sublimate soap for eczema in children, rubbing it in and then putting on a thin gauze.

Dr. William Stoker, having regard to the limitation of the medicated soap chiefly to the soap composed of the fatty acids, in which the alkali had replaced the glycerin, inquired as to lithium soap; secondly, in view of the explanation of the action of soap on the hands in the ordinary method of use, whether it was equally true of the superfatty soaps that there was free alkali in free dilution; and, thirdly, whether it was competent in the glycerin soap to retain much of the glycerin as used in commerce, or was it only "glycerin" so-called, on the *lucus a non lucendo* principle?

The Chairman said he had seen ointment containing ten grains of salicylate to the ounce used even on children without deleterious effect. As regards the question whether glycerin was really present in so-called "glycerin soap," the sweet taste of that soap was conclusive evidence of its presence.

Dr. Walter G. Smith, in reply, said that the transparent glycerin soap contained a large amount of glycerin. There was no doubt that the use of medicated soaps represented a distinct advance in the methods of treatment.

OLEITE, OR RICINOL-SULPHONATE OF SODA.—In a paper read before the American Pharmaceutical Association last year at San Francisco, on "Pharmacy as applied to Preparations of the Skin," Mr. Fred B. Kilmer communicated some interesting facts respecting a substance known as oleite.

Chemically this substance is essentially ricinol-sulphonate of soda. The following descriptive outline of the method of its production is furnished by Mr. Kilmer: "It is prepared from castor oil by treating with sulphuric acid at a low temperature, when a compound of sulphuric acid and ricinoleic acid is formed. The free sulphuric acid being removed by washing, and any unchanged oil by ether, the resulting sulpho-ricinoleic acid is then neutralized by sodium hydrate, the finished product being a jelly-like liquid, with a little odor, acrid taste, soluble in water, alcohol, chloroform, and essential oils." This description is characterized by brevity and vagueness, while the latter part of it is unfortunately so worded as to invite, if not literally to compel, the deduction of an erroneous inference. In the absence of particular knowledge of the action of sulphuric acid upon certain oils, one would conclude that the product of the reaction between the castor oil and the acid—sulpho-ricinoleic acid—was not sensibly soluble in water or in ether, while as a matter of fact the reverse is the case.

My present object is simply to supply a working formula for the soda compound—one that I have used and can recommend. Take 1 lb. of castor oil, and add to it gradually, with continuous stirring, 2 oz. by weight of sulphuric acid (B. P.). This part of the process will occupy several hours, and should be timed so as to be finished towards the end of the working day. In the morning introduce in the same manner 1 oz. by weight of the acid, or a sufficiency. The point of finality is reached when the product remains clear, or, as is generally the case, is only faintly opalescent when diluted with about forty times its volume of distilled water.

It is convenient for me here to interpolate the remark that the application of a suitable amount of heat is favorable to the reaction. The temperature of the mixed oil and acid may be allowed to reach 110° F., and may, without detriment, even rise to 120° F. When chemical combination is complete, the product is at once intimately mixed with 1½ times its weight of distilled water, and allowed to stand until separation into two distinct portions has ensued. The supernatant and oily layer is then removed, and neutralized with a 10 per-cent aqueous solution of caustic soda. This soda compound is shaken up with five times its volume of proof spirit, and set aside, when any free oil will rise to the surface. The lower and spirituous portion is evaporated on a water-bath to a thick jelly, the liquid being kept faintly alkaline by the addition of soda solution if necessary.

The resulting product usually contains a small proportion of sulphate of soda, but the quantity is insufficient to rank as a serious objection in view of the uses to which oleite is likely to be applied. If, however, in any case it is deemed necessary to eliminate traces of alkaline sulphate, the ricinol-sulphonate of soda must be treated with alcohol, in which the latter is soluble and the former practically insoluble.

The free acid (ricinol-sulphonic acid) may be readily obtained by decomposing the soda compound with hydrochloric acid.—W. A. H. Naylor in *Chemist and Druggist*, Aug. 12th, 1890.

Notes and News.

James W. Queen, founder of the well-known optical house of James W. Queen & Co., of Philadelphia, died July 12th, at Cresson Springs, Pa., aged seventy-seven years.

COMBINATION OF CAPSULE MAKERS.—The *Druggists' Circular* reports that the capsule makers have formed a combination, and that the price of empty capsules will be advanced from $7 to $14 per gross.

Henry Nestlé, the inventor of "Nestlé's Milk Food," died at Montrieux, Switzerland, on July 8th. He was a native of Wurtemburg, being born there in 1820. He was educated as a pharmacist, and removed to Switzerland when twenty-five years of age.

CAFFEINE FROM TEA LEAVES.—All the caffeine used is made from tea leaves. For many years it has been believed that this alkaloid was identical with that of coffee, coca, guarana, kola, and Paraguay tea. Latterly the separate study of these alkaloids has proved a decided difference in the therapeutic effects of those extracted from these different plants.

A CHOLERA SCARE IN PARIS AFFECTS THE QUOTATIONS AT THE BOURSE.—Two doubtful cases which occurred in the hospitals have been magnified by Bourse speculators into an outbreak of cholera. But autopsies have shown the deaths to be due to other causes, and we are assured that the epidemic has not crossed the Spanish frontier. Nevertheless stocks declined at the Bourse.

PHOTOPEL.—In the reports of the British Medical Association at Birmingham, it is stated that H. W. Jones, F. C. S., chemist, has invented a new compound photographic developer, which he sends out in pellet form under the above name. Each pellet makes four ounces of developing solution with a sufficiency of caustic potash. The solution obtained is one of the most cleanly ever worked with, and at the same time it provides excellent negatives, in which the detail is brought out with wonderful accuracy. Moreover, the development is very easily controlled, and the use of the alum bath is unnecessary.

THE ADMINISTRATION OF ANTHELMINTICS IN FRANCE.—The popular superstition is that all infantile disorders are occasioned by the presence of worms, when Corsican moss, a mixture of several kinds of seaweeds, comes into use in the form of a decoction. Worm seed, both in its natural state and sugar-coated, is much used, but santonin has now to a great extent superseded these remnants of ancient pharmacy. A large provision of this drug is always kept in stock in penny packets, and it is also much employed in the form of bonbons, lozenges, chocolate, and biscuits, the latter appealing to a better class of customers.

A STATUE ERECTED IN HONOR OF A CELEBRATED CHEMIST.—The Leblanc statue committee have presented to the Paris Chemical Society a balance of 28*l*. remaining on hand, to be used for founding a prize bearing the name of the celebrated chemist. The society council on accepting the donation, decided that the interest of the sum would be employed to offer a biennial 20*l*. prize, with a Leblanc medal, for the best chemical memoir. The prize may be awarded to anyone, French or foreigner, and member or non-member, excepting only such as are serving on either the council or the prize-committee. The first award will be made next December.

HONORS WELL MERITED.—Dr. Baxter has been promoted to be Surgeon-General U. S. A., in place of Surgeon-General Moore recently retired by limit of age.

Dr. John Billings, of Washington, D. C., was made one of the honorary Presidents of the Medical Congress at Berlin.

Dr. F. E. Stewart, Ph. G., well known to the readers of the BULLETIN through his contributions to pharmaceutical literature, is the medical attendant of President Harrison's family at Cape May Point.

⁂

Frederick K. Stearns & Co. have purchased the business of Luson J. Finch, of New York and transferred it to Detroit.

"PAIN-KILLER" NOT A TRADE-MARK IN ENGLAND.—In the early part of 1877 the owners of Perry Davis' Vegetable Pain-Killer secured the registration in England of two trade-marks, the one consisting of the title as here given together with the picture of a man's head; the other, the words "Pain-Killer" without any device. Ten years later they discovered that another party was selling a pain-killer, and applied for an injunction against him. They were unsuccessful, however, the defendant securing an order to have the trade-mark "Pain-Killer" removed from the register. The plaintiffs contested the case through the courts up to the House of Lords, being unsuccessful at every step. The case was lately argued before the Lord Chancellor and his associates with the result stated.—*Drug. Circular.*

OBITUARY NOTES. — The pharmaceutical press records the death of three men whose names are well known to the drug trade.

Clayton French, senior member and founder of the extensive wholesale drug firm of French, Richards & Co., of Philadelphia, died of paralysis at his country home near Logan Station, Pa., on Sunday July 27th, in his 67th year.

Henry Maunsell Schieffelin, at one time a prominent wholesale druggist of New York, died recently at Alexandria, Egypt, where he had gone for the benefit of his health.

Mr. Schieffelin, who was born in New York in 1808, was a son of the late Henry Hamilton Schieffelin, into whose drug store he entered on finishing his education. In 1828 Mr. Schieffelin entered into partnership with his cousin under the firm name of Bradhurst & Schieffelin, and continued actively engaged in business either alone or associated with others until 1859 when he retired.

LABORATORY NOVELTIES.—The *Chem. Ztg.* gives particulars of two simple novelties which may be useful in laboratory work. The first is a holder for porcelain dishes, which will obviate the danger of handling dishes containing hot substances. It is not stated what the material is of which the holder is made, but we should think it would be of porcelain.

The next novelty is a glass filter, the idea for which is taken from Mohr's "*Lehrbuch der Titrermethoden.*" The apparatus consists of a simple glass tube, about ten to twelve inches in length, and about one-fifth of an inch in width, carefully smoothed at one end. A small square of filtering paper, about half an inch in diameter, moistened with a drop of water, is pressed to the smoothed end of the tube and placed on the surface of the liquid from which it is desired to obtain a clear filtrate. By suction with the mouth at the other end of the tube, the liquid is then drawn into the latter, the impurities of course being kept back by the small square of filtering-paper. When the tube is nearly filled, the filtering paper is shaken off with the finger, and the clear filtrate remains in the tube. It is said that this simple method has been found exceptionally useful in many operations, especially in the volumetric analysis of sulphuric acid, in which it replaces the complicated apparatus of Wilberstein.

MEETING OF THE NATIONAL WHOLESALE DRUGGISTS' ASSOCIATION.—The Association will hold its next annual meeting at Washington, beginning September 29th and closing October 3d. The sessions will be held at the Arlington Hotel, where a commodious meeting room will be at the disposal of the Association. The committee of arrangements and entertainment, consisting of H. B. Gilpin, H. J. McIlvaine, W. J. Walding, W. H. Schmidt, Fred. B. Perry, Jas. H. Richardson, and J. M. Peters, have followed the precedent established at Minneapolis, of holding the first session on Monday evening, at which the formalities will be disposed of, so that at the session of Tuesday morning there will be no delay in getting to more important matters. Wednesday will be given up wholly to sight seeing, including a drive around the city and an inspection of the capitol, treasury, army and navy and state buildings, and the Smithsonian Institution. There will, however, be a business session Wednesday evening, and two sessions on Thursday, followed by a banquet on Thursday evening. On Friday there will be an excursion to Mt. Vernon, tendered by the wholesale trade of Baltimore. The marine band under the leadership of Sousa, has been engaged for this occasion as well as for the banquet and for the promenade concert and reception on Tuesday evening. The committee has given special attention to arrangements for the comfort and entertainment of the ladies of whom it is hoped and believed an unusually large number will attend this year.

THE HYOSCYAMINE CASE IN NEW YORK.—The druggist's assistant, Lee Roberts, who dispensed the crystalline hyoscyamine, which was at first believed to have caused the death of Nicholas Carroll, has been exonerated by the jury from responsibility for the patient's death, but censured for having dispensed one medicine (Merck's crystalline hyoscyamine) when another (Merck's amorphous hyoscyamine) was prescribed. At the inquest Dr. Robert G. Eccles, a member of the Committee of Revision of the U. S. Pharmacopœia, gave expert evidence. He said Merck's amorphous hyoscamine, called for by the prescription, was properly known as hyoscine, but both that and the crystalline hyoscyamine possessed the same properties, and while the crystalline was regarded as stronger than the amorphous, yet the safe dose of each was the same—about half a grain. No fatal case from the use of the drug was on record so far as Dr. Eccles could learn. The dose given by Dr. Hutchinson was one-eighth of a grain, and with it the same amount of morphine, the bane and the antidote in the same dose, reducing the strength to about one-twelfth of a grain. According to the statement of Dr. Wallis, one of the attending physicians, that the patient's tongue and mouth were moist at the time he died, the poison must have been eliminated from his system and could not have occasioned death. The prescription was shown to Dr. Eccles and a bottle of hyoscyamine crystalline. He said he would not have put up the prescription from it without consulting the physician, because he believed the drug meant was hyoscine, but he did not believe it would have made any difference to the patient, as one was as safe as the other.

A $200,000 LIBEL SUIT.—Suit has been entered by William Radam, manufacturer of "Radam's Microbe Killer," against the *Druggists' Circular*, of New York, for $200,000 damages, the largest amount so far as heard from that was ever asked for in a libel suit of this kind.

The pleadings show that the action is brought to recover damages claimed to have been done the business of the plaintiff by an article published in the *Druggists' Circular* for September, 1889. This article gave the result of an analysis of the "Microbe Killer" made by Dr. R. G. Eccles, a prominent chemist of Brooklyn, who stated that an identical preparation could be made by the following formula:

Oil of vitrol (impure)	4 drachms.
Muriatic acid (impure)	1 drachm.
Red wine, about	1 ounce.
Well or spring water	1 gallon.

This mixture, it was alleged, could be made at a cost of less than five cents per gallon for which Radam charged three dollars.

It was further alleged that while, when properly used, sulphuric acid, the principal constituent of the "Microbe Killer," was a valuable medicine, it was, when taken without due caution or advice, a slow but certain cumulative poison; and the theories advanced by Radam, as to the cause of diseases and the proper method of treatment, were alleged to be totally erroneous. Col. Robert G. Ingersol, the famous lecturer, is the counsel for the plaintiff.

The *Druggists' Circular* expresses a desire to hear of any case in which unfavorable results have followed the administration of the "Microbe Killer," or any other fact that would be interesting under the circumstances. They claim to have published this analysis without malice, and with the sole intention of protecting the public from the loss of their health and money by the use of a dangerous nostrum.

DRUGGISTS' BULLETIN

A MONTHLY EXPONENT OF
PHARMACEUTICAL PROGRESS AND NEWS.

VOL. IV. No. 10. DETROIT, MICH., OCTOBER, 1890. { $1.00 a year. Single copies, 10 cents.

THE DRUGGISTS' BULLETIN.
ISSUED MONTHLY.

EDITOR:
B. W. PALMER, A. M., M. D.

COLLABORATORS:
PRACTICAL PHARMACY.
J. LE ROY WEBBER, PH. G., LEON C. FINK.

CHEMISTRY.
F. A. THOMPSON, PH. C., J. B. NAGELVOORT, PH. G.

BOTANY AND MATERIA MEDICA.
H. H. RUSBY, M. D., G. SUTTIE, PH. C.

PHARMACEUTICAL APPARATUS AND INVENTIONS.
J. B. RUSSELL, PH. G.

GEO. S. DAVIS, Publisher,
P. O. Box 470, DETROIT, MICH.

Articles designed for insertion in THE BULLETIN, subscriptions, advertisements, and all communications should be addressed to the publisher.

Editorial.

MISQUIDED INTERFERENCE.

In a very commendable effort toward the suppression of adulteration and sophistication, the Legislature of New Jersey recently decided to make the Pharmacopœial standards legal, and demand that any pharmacist found dealing in drugs and medicines varying from these standards should be guilty of misdemeanor and liable to prosecution under the special act regulating this matter. Had the Pharmacopœial standards been what we might expect in such an authority, everything would have run along smoothly, but it happens that they are not, and the consequence is that at least one house in this country has been subjected to serious annoyance and unjustified prosecution.

Some half-dozen or more druggists were recently visited by a representative of the Dairy Commissioner, under whose jurisdiction this act is enforced, and from them was procured a sample of their tincture nux vomica. In order to make assurance doubly sure, they took the precaution to specially prepare the product from the normal liquid manufactured by Messrs. Parke, Davis & Co., it being well known that this preparation is absolutely constant in composition. The druggists were greatly surprised, however, when, a few days afterward, they were notified to appear in court and answer to a charge of selling inferior drugs! Investigation disclosed the fact that, whereas the Pharmacopœia demands that tincture nux vomica shall contain two per cent. extractive matter, the preparation supplied by these pharmacists contained less than one per cent., and for a little while it looked as though there was a screw loose somewhere. The loose screw (if we may continue the metaphor) happens to be located right in the Pharmacopœial standard. What has extractive matter to do with the therapeutic properties of a tincture of nux vomica? Anyone can add glucose to dilute alcohol, and meet the requirements of the Pharmacopœia. The alkaloids are the only thing that concern a physician, and the standard therefor of Messrs. Parke, Davis & Co., which requires that their normal liquid shall contain 1.5 per cent. of total alkaloids, puts to shame the empirical demands of the Pharmacopœia.

If the Honorable Dairy Commissioner had taken the trouble to assay the tincture which he was so willing to condemn, he would have found that it contained all the principles of the drug in such proportion that there could be no possible question as to the integrity of its manufacture. It is a matter of regret that the compilers of the Pharmacopœia have not been more careful in their work. The Pharmacopœia should be a legalized authority in every State of this country, but it never can, nor ever will, so long as standards such as the one in question are embodied in its pages. Every case based on such injustice should be appealed to the highest tribunal in the country, and a revision of this law which puts a premium upon adulteration, and is antagonistic to the best interests of every conscientious pharmacist, insisted upon.

ETHER INTOXICATION.

That the toper of to-day does not confine himself to alcoholic stimulants is apparent from the not infrequent cases of drug intoxication reported in the lay and medical press.

Opium, chloral, cocaine, betel nut, and chloroform, all have numerous devotees who sacrifice their health to the dominion of these remedies potent for evil when indulged in to excess for their stimulating properties.

Savage and civilized alike become slaves to these agents, so powerful for good when properly used, but fruitful of harm when abused.

In the BULLETIN of last year (May, 1889, p. 130) we had occasion to comment on the growing prevalence in some portions of Great Britain and Germany, of ether intoxication, and the phenomena that accompany the vice. Recently (Sept. 10th) a like report, but presenting many new points of interest, appeared in the London *Lancet*. From this we glean that ether first came into use as an intoxicant in 1841, and was a kind of reaction against the great temperance movement which had been inaugurated by Father Mathew. Ether, at that time of the ethylic type, probably not very pure, was substituted for whisky, and the habit is continued up to the present day.

"The method of drinking was singular. The ether purchased at open shops and at stores, was doled out in wineglasses. The drinker first washed out his mouth with a draught of cold water, and after that tossed off a wineglassful of ether 'nate,' as it was said, drinking it quickly, almost at a gulp. Both men and women took part in this indulgence, and were speedily brought into a state of intoxication more or less complete.

"The intoxication differs from that produced by alcohol. It is more rapidly induced, and more rapidly dispelled; in fact, the effect of one dose may be developed and cleared off in a quarter of an hour or twenty minutes. The delirium is sharp; the stupor, for a brief period, deep; and the excitement, so long as it lasts, hysterical. We gathered particulars from a trustworthy medical source of several instances in which the narcotism caused by the ether had proved dangerous, calling for the employment of artificial respiration; and we found evidence of four actually fatal intoxications, either from an excessive dose, or from asphyxia caused by the entrance of some of the fluid into the glottis, with succeeding spasm or obstruction. We gathered, at the same time, that tolerance to the effects of ether was much less marked than tolerance to alcohol; and we learned further, that organic disease from the habitual taking of ether was exceedingly small compared with the ravages and degenerations which alcohol leaves in its train. The explanation of these facts is not difficult; alcohol is so soluble that it enters the blood freely, pervades, with the water of the blood, all the tissues, and is readily retained by them to work out those serious osmotic changes which demonstrate its action as the most potent of degenerators. Ether, on the other hand, is comparatively insoluble, and as it boils at the temperature of the body and is diffused nearly as fast as it is introduced, it leaves few marks of mischief, except when it destroys life directly. Occasionally it gives rise to dyspepsia and to gastric irritation with free eructations of gases mixed with ethereal vapor. But these symptoms belong to ether topers of a hardened sort, and soon pass off when the habit is abandoned.

"Of late years the use of the cheaper methylated ether has taken the place to a considerable extent of the ethylic variety, and some think with more injurious effects; but on this point there is no evidence strictly trustworthy. Officers of the Government have at various periods made inquiries in order to see if, by legislative action, the habit could be controlled or prevented, but as yet nothing has been suggested that has promised success, and the Excise officers are helpless, inasmuch as the spirit from which the ether is made has paid the usual duty previously to the manufacture."

MEETING OF THE NATIONAL WHOLESALE DRUGGISTS' ASSOCIATION.

From all accounts of it we must conclude that the sixteenth meeting of the Wholesale Druggists' Association was on the whole the most satisfactory ever held.

The attendance is variously stated to be between two and three hundred. All unite in regarding it as over two hundred.

The officers elected were: President, Daniel Stewart, Indianapolis, Ind.; Vice-Presidents, R. W. Powers, Richmond, Va.; R. Shoemaker, Philadelphia, Pa.; W. J. Walding, Toledo, O.; T. F. Main, New York City; E. C. Frisbie, Hartford, Ct.; Secretary, A. B. Merriam, Minneapolis, Minn.; Treasurer, S. M. Strong, Cleveland, O.; Board of Control, W. A. Rust, Boston, Mass.; D. Myers, Cleveland, O.; J. E. Davis, Detroit, Mich.; F. L. Carter, Boston, Mass.; John Birks, Peoria, Ill.

Louisville is the chosen place for the next meeting and it is thought that the success of the Washington meeting, the valuable papers read and the discussions had, as well as the social pleasures enjoyed, are auspicious of continued and increasing interest in the objects of the Association, and a still larger meeting at Louisville next year.

The list of membership was largely increased, and great interest manifested in the discussion of questions affecting the trade or commercial interests of pharmacy, needed legislation, advantages of fraternity, and union in achieving further progress in these and other directions.

Under the management of the entertainment committee the social features of the meeting were a source of pleasure to all who participated, and many of those who attended must carry away with them pleasant memories of their Washington visit.

The programme of entertainment included a reception by President Harrison, banquet, carriage drive about Washington, an inspection of the public buildings, an excursion to Mount Vernon with luncheon tendered by the Wholesale Druggists of Baltimore, theatre party, reception and promenade with music by the Marine band, and a concert for the ladies.

George M. Olcott gracefully fulfilled the *rôle* of toastmaster; the toasts responded to were as follows: "The President of the United States," Stephen Decatur; "Woman," Edward B. Hay; "The Clergy," Hon. Wm. H. Webb; "The Medical Profession," M. H. Kline; "The Law," Rev. Geo. H. Corey; "The Apothecary," Benjamin T. Fairchild; "The Manufacturing Chemist," Dr. H. H. Rusby; "The Proprietor," Wm. H. Brown; "The National Wholesale Druggists' Association," Mr. Thomas P. Cook: Mark Twain and De Wolf Hopper contributed to the "feast of reason and flow of soul" which followed the banquet, and what dreams were had from this admixture of wine and mental pabulum we have been unable to get a report of.

Among the papers contributed and the topics discussed were the following: The scholarly Address of the retiring President, Peter Van Schaack; Trade Mark Infringements and Regulations; Paints, Oils and Glasses; Proprietary Goods; Membership; Legislation; Credits and Collections; Transportation; Box and Cartage; The Drug Market; Fraternal Relations.

The President, Mr. David Stewart, was born at Greensburg, Ind., Feb. 3d, 1824. His early life was spent in the village printing office. As a "printer's boy" he was a success, for no one in the office could "set" and "distribute" type better than he. When sixteen years old, he was called to "come up" from the printing office to the village drug store. His career in the drug business commenced Nov. 12th, 1840. From that time until the present he has been connected with the drug business—first as a clerk for two years, then as junior member of the firm of S. Stewart & Son, then as senior of D. & J. Stewart. Having disposed of his interest at Greensburg, in the spring of 1863 he moved to Indianapolis, and for thirteen years was of the firm of Stewart & Morgan. In 1876 the firm changed to Stewart & Barry. On account of ill health Mr. Barry retired in 1883, since which time Mr. Stewart has been sole proprietor.

CHANGES IN THE NEW TARIFF BILL AFFECTING PHARMACY AND CURRENT DRUG MARKET QUOTATIONS.

The New York Correspondent of the BULLETIN affords, in a communication dated October 13th, the following information regarding the new Tariff Bill, which we give editorial prominence in as much as this Bill has been discussed with so much partizan asperity by the daily press that a simple statement of the facts will, we think, be appreciated:

The near approach and probable passage of the new Tariff Bill, naturally has caused during the past month a great deal of excitement in the drug market, and resulted in a large volume of business. The actual passage of the Act, which is now a law, has not resulted in lessening the excitement, although it has brought to a very sudden close the demand for imported drugs. The list of drugs and chemicals affected thereby, is not a long one, although some very radical changes have been made. It is needless to go into a general comparative list of these, as such would only be tiresome to your readers, but in the general review which follows, the more important articles will be spoken of.

Opium has been placed upon the free list, so far as natural opium containing 9 per cent. or above of morphia is concerned.

One good feature of the new Act is, that the so-called Boston or pudding opium will hereafter be classed as a manufactured opium, and subject to the *ad valorem* duty of 25 per cent. A very large stock of such opium was lying in bond at the time that this new tariff came into operation. Very grave apprehensions are held on the part of its owners, lest they should be compelled to export it, as naturally they could not afford, in the face of free natural opium, to pay this heavy duty. Up to the present time, this matter is not entirely settled, but the general impression is that it will be admitted, but that hereafter none but natural opium can come in free.

This removal of duty so far as the price of the article in our market is concerned, begins to be somewhat discounted, but it will be some weeks probably before its full benefit will be realized on the part of domestic purchasers.

Morphia will necessarily decline in price, but it must not be expected for some weeks to come, as all morphia now held in the hands of manufacturers, has been made from duty-paid opium.

Quinine.—A strong effort was made on the part of manufacturers of this salt, to have it again placed upon the duty list. The efforts, however, were unsuccessful, and it still remains free.

Chlorate Potash has heretofore carried a duty of 3cts. per lb., but is now free.

One of the very singular features of the new tariff is shown in the fact, that upon crude *Sage* there has been placed a duty of 3 cts. per lb. It is a little difficult to imagine why this was done, as the general spirit of the new Tariff is, that of admitting crude material free, and placing duty upon manufactured articles. This, however, is one of the absurd exceptions to this rule, and as a matter of course, a corresponding advance in price has taken place.

Sugar of Milk.—This article so very largely used, both as a food product and in medicine, has been subjected to a duty of 8 cts. per lb.

Beyond the articles mentioned, no material changes affecting pharmacists have taken place.

Jalap is in exceedingly short supply and has reached most absurd prices.

The same remarks apply to all Mexican products, with special reference to *Ipecac* and *Sarsaparilla.*

Ipecac continues to advance in price, and an advance of fully 25 per cent. may still be anticipated.

Guarana is in exceedingly light stock, and continues from month to month to advance.

Manna has reached almost unheard of prices.

Saffron (Spanish) has declined materially, and no advance can be anticipated.

Resin Scammony.—Contrary to expectations, the crop of the root has not been large, and still higher prices are asked, with a fair anticipation that a further advance will take place.

Balsam Tolu.—Continues in light supply, and prices are still high.

Senna.—Fuller reports have now come in concerning the new crop of Tinnevelly variety. The better grades seem to be in very light supply, and we are strongly advised by our correspondents from the East, that supplies of the better varieties will not increase, therefore higher prices must be looked for. As to the Alexandrian variety, no change whatever has taken place.

Cubebs.—The entire crop is now in, and is probably about equal to that of last year. The demand is very active and lower prices need not be looked for.

Arnica Flowers.—Are coming in, in very light stock, and the prices are 25 per cent. higher at the present moment, than when my last letter was written.

Citric Acid.—Is is light demand, and lower in price.

Golden seal, Mandrake and Senega Roots, seem entirely neglected. There, however, is a sufficient supply of all these in hand to meet all demands, and an advance therefore need not be anticipated.

Shellac.—Has advanced some 25 per cent. in value.

Cantharides, are in very abundant supply, and lower in value.

Insect Flowers.—Supplies again this year are very large, and prices continue to decline. Buyers therefore of the powder will be in a very favorable position when the season for demand opens.

Essential Oils.—These remain unchanged, with the single exception of oil of peppermint, which, because of limited supplies, has advanced, and still continues to advance in value.

Cod-liver Oil.—Advices from Norway are to the effect that the catch of fish this year is not as large as usual, nor has the year been up to the average. As a consequence, prices have advanced abroad. Added to this the material advance caused by the new tariff, it has steadily advanced in value, until now from $2.00 to $2.50 per barrel more is required than when my letter of last month was written, with a very strong feeling on the part of holders, and every probability that an advance of fully 25 per cent. will be reached before the active season for its demand commences.

Menthol owing to short crop, has advanced $1.00 per pound, and is held very firmly with every probability of higher prices.

Hops.—Advices of the failure of the English, and largely of the German, crops are confirmed, and in consequence thereof, the demand on our American hops has become very great, and caused a very marked advance in prices.

Buchu.—The short buchu, which article has entirely taken the place of the long buchu for medicinal purposes, is found to be in very limited stock, there being not sufficient, it is believed, to carry us through until the new crop can arrive, in consequence of which condition of affairs the price has just about doubled.

Lycopodium.—This article also is in very short supply, and we receive advices from abroad, because of short crop, enhanced prices must be anticipated.

THAT MYTHICAL DRUG JOURNAL CENSUS.

"For ways that are dark and tricks that are vain" the recent drug journal circulation was peculiar.

We have proven its fallacious statements by affidavits in our October issue, and now we are much pleased to find that the originators of this remarkable census are unanimously condemned by all the pharmaceutical press except an organ under the same management as the *Druggists' Circular*,—*The Oil, Paint and Drug Reporter*,—which, as one of the family, naturally endorses its associate. We are reminded in this connection of an anecdote we heard related once of an advertiser who wished to learn the circulation of a journal, and on asking the printers for the exact figures, received this reply: "Advertised, 300,000; bona fide, 100,000; actual 10,000; total, 410,000."

The latest arraignment of the *Druggists' Circular's* peculiar census is by the conservative *Pharmaceutical Record* of Oct. 7th, which voices its statements in no uncertain language as follows:

> In one of our recent issues we alluded to an attempt on the part of one of our contemporaries to mislead the drug public as to the comparative circulation of the several journals that reach that portion of the community. Recently the journal by which this was attempted seems to congratulate itself on its merit in this undertaking, and gives its statement to the public as showing its great success over any and all of its contemporaries. Could the mover in this scheme see some of the letters that have come to our hands, and heard the expressions of some of the trade, it might be useful in teaching him a lesson that he seems slow to learn.
>
> We only notice it here to say that it is the old story of the "big *I* and the little *u*" as he sees it, but far different as others view it. We characterize the entire scheme as unworthy of belief, so far as the figures given by the *Druggists' Circular* are concerned, every competing journal being far underestimated. However, it will be received by those for whom it is intended at its proper value.

Original Articles.

PRACTICAL PHARMACY.

A REVIEW OF THE VARIOUS METHODS OF PERCOLATION.*

BY J. W. ECKFORD.

When this topic was selected for a brief paper to present to the Association, I had only a vague idea of the vast volume of literature that was in existence on this subject; and after much thought, and close inquiry into the matter, I fear I cannot produce a single point that has not been time and again discussed and completely exhausted.

My indifferent experience would suggest that I be very careful in reviewing a theme that the brightest minds in our Association have spent a "life-time of labor" in trying to perfect and to enlighten us upon.

Many of our most intelligent and experienced pharmacists and manufacturers have invented or adapted apparatus for percolation, for which they claim perfection, and they produce all kinds of arguments to convince their hearers that their opinions and convictions are correct.

Mr. S. J. Hinsdale describes an apparatus for percolation of fluid extracts, tinctures, and syrups, which to my mind has a good deal of merit. The chamber for the reception of the substance for percolation is provided near its lower extremity with a strainer and stop-cock. The upper part of this chamber is attachable to an air-chamber above it, the connection being made air-tight by means of screw-thread and rubber gaskets. A convex diaphragm with marginal openings is located in the air-chamber near its connection with the cylinder below. Attached by a flexible pipe to the air-chamber is a bulb of rubber provided with valves, by the aid of which the tension of the air in the chamber can be increased and the operation of percolation hastened. The theory is very plausible, and may be practically a success. I have never seen it tested, but imagine it would have staunch advocates. It certainly seems to suggest economy of time and material.

The improved "Rosenwasser" that has been so critically discussed and by some severely judged, seems to have been adopted by many experienced pharmacists; it is much simplified, is practical, and by those who use it and like it, much is said in its favor, giving valuable service in rapid filtration and economy of material. This percolator has been subjected to a lengthy and very able criticism by Dr. Cummings, of Portland, Maine. It will amply repay every pharmacist to carefully study this article, published in 1884, entitled "A Study of Percolation." It seems to serve the double purposes of percolator and tincture-press, and in my opinion deserves a place in the laboratory of every progressive pharmacist.

The principle of percolation is so simple and philosophical, and the solubilities and exhaustibilities of all crude substances in our Materia Medica have been so frequently traversed, I can really see no wisdom in a further discussion or review of the subject, unless perchance some genius can come to the front with an entirely new theory, and thoroughly demonstrate its utility.

There being such a wide difference of opinion as to the various methods of percolation, and their respective advantages, the inquirer, after securing the views and experience of the ablest thinkers on the subject, is finally compelled to await the result of his own researches and experiments. The manufacturers of fluid extracts and tinctures for the jobbing trade require altogether more complicated and extensive apparatus than the average retail pharmacist, hence the experience of the one differs materially from that of the other. The Pharmacopœia was made principally in the interest of the retail pharmacists, and as they are largely in the majority, and as they are in the habit of dealing with small quantities, and the loss of material incident to percolation of small quantities is insignificant, they as a class do not regard the sustained loss as of much moment, and do not fully appreciate the importance of the economy of time and material as the wholesale manufacturer does; yet the retailer is wrong if he is indifferent as to these little savings, which amount to considerable in the period of a twelvemonth. The more economical plan is for him to purchase his fluid extracts and tinctures from some reliable manufacturer.

An apparatus described by Mr. W. M. Thompson, of Philadelphia, which consists of three separate and distinct parts, differing from most others in its operation, has much to recommend it. The upper chamber constitutes the reservoir for the menstruum and compressed air, acting in the double capacity of vacuum and compressing chamber; receives the menstruum by creating a vacuum therein, subjecting the menstruum immediately thereafter to a pressure of three or four atmospheres, and retaining the same under compression until required. The great advantage claimed by this method is the full and constant effect of the compressed air upon a column of menstruum, forcing it through the drug mass, the construction of the apparatus allowing a body of liquid to be constantly between the drug and the air. Another peculiar feature in the construction of the apparatus which commends it is the fact that it can be reversed without changing it; should in any case the percolate fail in being saturated, then the reservoir becomes the receiver, and *vice versa*—the same method of procedure forcing the percolate upwards through the drug again, which can, if so desired, be returned.

My own experience is that the simpler the apparatus, the more available it is; and I think this is the opinion of the average retail pharmacist who manufactures for his own retail trade. The main object is practical exhaustion, etc. We find no difficulty in accomplishing it with the ordinary cylindrical (slightly conical) percolator, when the drug is in the proper degree of fineness and carefully and intelligently packed—which is of the highest degree of importance. We usually allow the drug to macerate in the first portion of the menstruum for some time before it is allowed to flow. It would appear that those percolators which require the menstruum to flow through a tube in order to get a greater pressure, are not desirable for our drugs, notably ipecac, etc. When the menstruum becomes laden with the soluble portion of the drug, its natural gravity is sufficient to induce as rapid percolation as is expedient. While it might appear that the drug would swell from absorption, and become too compact, it seems that the abstracted principle counteracts this condition. Repercolation is sometimes necessary, though it is not usually practiced when the drug has been properly packed and allowed to macerate long enough. When it is not rightly packed, and is allowed to percolate at once, the menstruum is liable to flow around and not through the drug; but when well done, the first portion, not being able to pass around, is absorbed by the drug, from which it extracts the active principles, and becomes heavier, and is displaced by the succeeding portion; and when properly conducted, each succeeding portion should be less impregnated, until the last should be devoid of taste and smell of the drug—evidence of exhaustion, every portion of the drug having been permeated with the menstruum.

---

* Read before the Old Point Comfort Meeting of the A. P. A.

The experience of J. W. Colcord is that preliminary maceration is objectionable, and he endeavors to show that better results are obtained if about one-eighth of the desired amount of percolate is collected, and then maceration and percolation alternately proceeded with. Some writer says that all percolation should be practically a succession of macerations. A maceration implies time, but the question is: If a current passes a cell wall, picks up a portion of its soluble contents, and passes on without pause—can that be called maceration? This inquiry is food for thought. Percolation keeps the menstruum in motion; maceration keeps it stagnant and quiescent.

As we cannot agree as to the best method, let us store our minds with the experience of the very best authors on the subject, and govern ourselves accordingly, adopting the best, and rest content, for—

> "Like doctors thus when much dispute is past,
> We find our tenets just the same at last."
>
> "Who shall decide when doctors disagree
> And soundest casuists doubt, like you or me?"

Aberdeen, Miss.

SOME THERAPEUTIC NOTES OF INTEREST TO PHARMACISTS.

BY H. M. WHELPLEY, M. D., PH. G.

Anti-fat is now announced in a new form in France. Iodide of potassium, bladder wrack and all of the old-time remedies are discarded. Dieting is resorted to, but by a new method. The plan is to eat but one kind of food at a meal; that is, meat, or potatoes, or bread. The theory is that a person soon sickens of such a bill of fare and does not eat enough to keep him fat. Corpulent druggists can easily try it.

As a nutritive enema when food cannot pass into the stomach, Jaccoud recommends the following:

℞	Beef broth (fresh)	8 fl. ozs.
	Wine	4 fl. ozs.
	Yelks of eggs	2
	Dry peptone	1 to 4 drs.

Misce. Inject in small portions during the day.

Dr. H. Judd says that he can tell by the looks of a child on its way to school that the poor little human is being air starved at home. He lays great stress on the importance of good ventilation and sunshine for sleeping apartments. I can tell drug clerks that are starved in the same manner without looking at them; all that is necessary is to learn that they sleep in a drug store. Dr. Judd says that he has followed school children home and talked to their parents about the conditions of affairs. He has been "gratefully listened to, and the suggested changes made," but he adds: "In other cases I have left the premises with a certain feeling that I had been kicked over the house top." If I should follow a drug clerk home and talk to the proprietor, even in the mildest of tones, I am confident that my experience would be of this house-top variety.

The bleeding following the extraction of teeth is sometimes troublesome to check. An eminent dentist claims that tannic acid administered internally stands at the head of the list of remedies to be employed. He dissolves three grains of tannin in four ounces of water and gives two teaspoonsful every five minutes until three doses have been taken, and then the same dose every fifteen minutes until the hæmorrhage ceases.

The night sweats of consumptives are treated by Neusser with the tellurate of potassium given in one-third grain doses in pill form. In some cases the dose was increased to one grain. This is undoubtedly more effectual than the treatment Dr. J. C. Falk reports from the St. Louis City Hospital. One of his patients demanded a basin of water to be placed under the bed to prevent night sweats.

It is not very comforting to know that syphilis can be, and occasionally is, communicated from one person to another by means of towels, handkerchiefs, bathing suits, syringes, adhesive plaster, water closet seats, pillows, razors, etc. Such are facts as demonstrated in medical practice, and careless persons sometimes realize the truth to their sorrow.

Buttermilk is a remedy of therapeutic value appreciated by some persons but condemned by others. Perhaps this contradiction of testimony comes from the use of both old and fresh buttermilk. Dr. S. M. Ward has paid much attention to the use of this form of milk as a medicine. In a contribution to the *Therapeutic Gazette*, he asserts that it must always be freshly prepared when used therapeutically. To check vomiting he administers half a teaspoonful of ice cold buttermilk every twenty minutes for a few doses, and then increases to a teaspoonful every half hour. The doctor employs a few drops of ice cold buttermilk every few minutes in cases of cholera infantum. For Bright's disease he gives a glass full four times a day and uses it without ice.

How to prevent taking cold is of great importance, and next to this information comes the abortion of a cold. Dr. G. M. Garland says this can be accomplished by taking ten drop doses of *Euphorbia officinalis* (Eye bright) every two hours. The doctor adds that the medicine is pleasant to take. It has heretofore been considered a remedy of little or no value.

Chloride of lime as a disinfectant has not been very highly valued by such eminent bacteriologists as Koch, Sternberg and Jäger. However, more recent experiments in Europe have demonstrated that a solution of chloride of lime is one of the very best disinfectants and germicides that can be employed by the laity. It is well for pharmacists to remember this.

Hay fever is sometimes spoken of as a fashionable disease, but no one who has ever suffered from the affection will for a moment consider it a comfortable malady. It may be as stylish as high colors, but it is no more agreeable. A New York physician has experimented with all the common methods of treatment of hay fever, and concludes that the use of the peroxide of hydrogen spray is far ahead of all others.

Erysipelas is a disease which is often treated by the laity. Rosenbach now scrubs the affected parts and surrounding healthy skin with soap-suds, and then applies each day a five-per-cent. solution of carbolic acid in absolute alcohol. Nussbaum and Brunn have both used ichthyol with good results. Nolti covers the affected parts twice a day with a five-per-cent. mixture of phenol in mucilage of acacia. Hallopean saturates several thicknesses of linen with a five-per-cent. solution of salicylate of sodium, and binds it on with rubber bands to prevent evaporation. If care is not exercised, the rubber bands will do injury.

It is interesting to know that a physician with the smooth name of Sapolini is mopping the membrane forming the drum of the ear with a solution of phosphorous. This procedure is to redeem the hearing of old people. He uses an oleaginous solution, probably similar to the official one. So phosphorous brightens up the ear as well as the brain. But I do not advise others than physicians to attempt a trial of this treatment.

Habitual constipation is a chronic trouble with many persons, especially women, who imagine that they must continually take purgatives. Dr. Sänger says that "artificial constipation" is a better term. As a cure he stops the use of all purgatives, and lets the patient eat freely, and urges the drinking of plenty of water with the taking of abundant exercise. Sometimes constipation continues for a week, but eventually all is well, and the patient cured, without pills or powders, massage, enemata, or a trip to some mineral spring.

Whooping-cough is now being treated quite successfully with resorcin. Andeer gives children two ounces of a two per cent. solution after severe coughing.

Cocaine sometimes exerts poisonous effects even when applied externally in weak solutions. Dr. I. Gluck has found that a combination with phenol increases the local anæsthetic effect, and prevents its absorption by cogulating the albumen of the tissue. He uses the following formula:

℞	Phenol......................	2 drops.
	Distilled water...............	1 fluidrachm.

Make a solution by agitation and and then add ten grains of the hydrochlorate of cocaine.

CHEMISTRY.

ASSAY OF CONIUM SEED AND LEAVES AND THEIR RESPECTIVE FLUID EXTRACTS.*

BY F. A. THOMPSON, PH. C.

The chemical and medicinal properties of the alkaloid *Coniine* are too well known to the medical and pharmaceutical professions for further comment, while information regarding the percentage of this exceedingly poisonous principle as found in the drugs and Galenical preparations, is badly needed, and to this end the writer wishes to present his brief work on the several assays of crude drugs and fluid extracts as found on the market.

Preparations of conium seed and leaves form an important part in our Materia Medica, and it is necessary that knowledge as to their relative therapeutic value be make known, as well as impressed upon the minds of the two professions, and it is to be hoped that every addition will stimulate further investigations, until we, as pharmacists, will be in a position to inform the practicing physician whose brand of fluid extract or other Galenical preparation is most reliable and therefore the best.

The process of assaying, adopted for this drug, is a modification of Lyons' as given in his Manual of Assaying, and considered superior to any other in point of accuracy and simplicity, viz: Place 10 grammes of the drug in No. 30. powder, in a suitable (tall prescription) bottle, capacity 120 c. c. or 4 fluidounces, pour on 95 c.c. of petroleum benzin, shake, add 5 c. c. of a mixture of absolute alcohol 19 volumes, and concentrated ammonia 1 volume, cork and shake frequently (during working hours) for 24 hours. After this maceration, decant and filter off (using a covered funnel) sufficient to obtain 80 c. c. of percolate, which is transferred to a separator containing 2 or 3 c. c. of water, and to this is added sufficient dilute (1:10) sulphuric acid to render the aqueous fluid acid, after vigorous shaking. After complete separation of the two fluids, the aqueous portion is drawn off into a two-ounce prescription vial having a good lip. The benzin solution is repeatedly (two or three times) washed with 1 c. c. of 0.5 per cent. HCl water and the washing added to the original aqueous fluid. In some cases it is necessary to pass the acidulated solution through a very small filter, previous to adding to the vial. Add to the mixed aqueous fluids, about 50 c. c. of petroleum benzin, shake and remove after complete separation. Again add about 20 c. c. of fresh benzin and sufficient potassium carbonate to render the fluid distinctly alkaline, and agitate well. After complete separation of the fluids, decant the benzin into a second two-ounce prescription vial containing 5 c. c. of 0.5 per cent. hydrochloric acid, and shake vigorously. Unless about an hour is allowed to complete separation, it is best to first transfer the benzin to an intervening bottle containing 2 or 3 c. c. of water, to remove adhering alkali. After again allowing the fluids to separate, return the benzin to bottle No. 1 and treat as before, repeating the operation three or four times, or until complete removal of the alkaloid to the acidulated solution. If clear, otherwise filter, transfer the acidulated solution to a tared capsule, evaporate to dryness on steam bath, and dry the salt at a temperature not above 90° C. for an hour, and weigh as coniine muriate. The weight of the salt obtained, multiplied by 0.77675 gives the quantity of coniine alkaloid in 8. grammes, or if multiplied by 9.7094, gives the percentage of coniine.

---

* Read before the Michigan Pharmaceutical Association, at Saginaw, September 16–18th, 1890.

After weighing the coniine muriate, titrate with semi-deci-normal silver nitrate solution as a check on the weight, each c. c. of the silver solution being equivalent to 0.008675 c. m. of coniine muriate or 0.0067383 grammes of coniine.

The average of the succeeding fifteen assays, representing eight different samples of the drug, is 0.494 per cent. coniine; therefore a standard requirement of 0.50 per cent. coniine, estimated by weight, for the drug as well as the fluid extract, would seem a fair and just one for our next Pharmacopœia.

ASSAYS OF (GROUND) CONIUM FRUIT.

	I.	II.	III.	IV.
No.	Coniine muriate in 8. Grammes of Drug.	Per cent. coniine calculated from I.	Semi N-10 $AgNO_3$ Solution for I.	Per cent. coniine based on III.
1	0.039 Gm.	0.38	4.6 C.c.	0.39
	0.041 "	0.40	5. "	0.42
2	0.059 Gm.	0.57	7.2 C.c.	0.60
	0.064 "	0.62	7.6 "	0.64
3	0.044 Gm.	0.42	5.2 C.c.	6.44
	0.042 "	0.41	5.1 "	0.43
4	0.052 Gm.	0.51	6.3 C.c.	0.53
	0.049 "	0.48	6. "	0.50
5	0.052 Gm.	0.50	6. C.c.	0.50
	0.050 "	0.48	6. "	0.50
6	6.58 Gm.	0.56	7. C.c.	0.59
	....	....	....	....
7	0.054 Gm.	0.52	6.5 C.c.	0.54
	0.056 "	0.54	6.6 "	0.56
8	*0.053 Gm.	0.51	6.3 C.c.	0.53
	*0.066 "	0.51	7.9 "	0.53

FLUID EXTRACT CONIUM SEED.

Assaying of the drug only gives one the basis of a standard for the fluid extract, as well as the market value, and not of the Galenical preparations made from it; therefore more importance must be attached to this assay of the fluid extract, tincture, etc., than to the drug.

Although fluid extract and tincture of conium seeds, and not the leaves, are recognized by the U. S. Pharmacopœia, it is a fact that much larger quantities of the latter preparation are dispensed. This, however, does not lessen the importance of knowing the value of the preparations made from the seeds, especially the fluid extract as found in the open market.

The general process used, and found adapted to the assay of the different samples, made with varying alcoholic menstrua, is as follows:

Place 10 c. c. of the fluid extract in a small evaporating capsule, add 5 c. c. of 0.5 per cent. hydrochloric acid, if fluid is not already slightly acid, and digest on a water bath till free from alcohol. Cool, transfer fluid to a two-ounce prescription vial, add 20 c. c. of petroleum benzin, shake well, and, when separated, remove the benzin; repeating this washing until the benzin takes up little or no coloring matter. Now add about 20 c. c. of benzin, and sufficient potassium carbonate to render the fluid distinctly alkaline, and shake vigorously. After complete separation, decant the benzin into a second

---

* Ten grammes of drug assayed by Scripp's process (*Pharm. Jour. and Trans.*, July, 1887).

two-ounce prescription vial, containing 5 c. c. of 0.5 per cent. hydrochloric acid, and shake well. After separation, return the benzin to the first bottle, and repeat the operation until the coniine is completely removed to the acid fluid. Three or four times is usually sufficient. Remove the acidulated solution, which should be perfectly clear (otherwise filter through a very small filter) to a small tared porcelain capsule, and evaporate to dryness on a water bath, finally drying the coniine muriate one hour at a temperature not above 90° C.; cool, and weigh. Multiply the result by 7.7675, which gives the percentage of coniine in the fluid extract.

FLUID EXTRACTS OF CONIUM SEEDS.

	I.	II.	III.	IV.	V.	VI.	
No.	Per cent. of extractive dried at 100°C.	Coniine muriate in 10 C. c.	Semi N-10 Ag NO_3 required for II.	Per cent. of coniine calculated from II	Per cent. of coniine calculated from III	Value based on 0.50 per cent. coniine as a standard.	Physical properties.
1	13.7	0.064 Gramme. 0.068 "	7.7 C. c. 7.6 "	0.50 0.52	0.52 0.51	100 per cent. 104 "	Light brown and distinctly acid.
2	8.8	0.066 Gramme. 0.062 "	8. C. c. 7.7 "	0.51 0.48	0.54 0.52	102 per cent. 96 "	Light brown and distinctly acid.
3	9.6	0.057 Gramme. 0.058 "	7. C. c. 7. "	0.44 0.45	0.47 0.47	88 per cent. 90 "	Dark brown and freely acid.
4	15.8 (Including glycerin)	0.044 Gramme. 0.044 "	5.3 C. c. 5.35 "	0.33 0.33	0.35 0.36	66 per cent. 66 "	Greenish brown and freely acid.
5	9.8	0.044 Gramme. 0.041 "	5.2 C. c. 5. "	0.33 0.32	0.35 0.34	66 per cent. 64 "	Reddish brown and distinctly acid.
6	7.7	0.040 Gramme. 0.037 "	5. C. c. 4.7 "	0.31 0.29	0.33 0.32	62 per cent. 58 "	Light brown and distinctly acid.

This process is applicable to the U. S. P. tincture, using 50 c. c., and proceeding as with the fluid extract, after reducing it to a small volume on the water bath.

From the foregoing table it is readily seen that three of the samples are up to an average quality, with others, two thirds and nearly one-half the strength. The physical properties of these samples did not differ more than fluid extracts made at different times by the same process, proving that the appearance of a fluid extract is no guide of its value. This is also true of the crude drug, a fact which is ever borne in mind by the large manufacturers of reliable fluid extracts, and should also be by every pharmacist who makes his own fluid extracts, tinctures, etc.

CONIUM LEAVES.

According to Hanbury and Flückiger's Pharmacographia, page 301, conium leaves (*Conium maculatum*, L.) contain, though in exceedingly small proportion, the same alkaloids as the fruits. Geiger obtained from the fresh herb, not so much as $\frac{1}{10000}$ part of coniine. The same observer, as well as Pereira, has pointed out that conium leaves when dried are very frequently almost devoid of coniine, and the observation is supported by the more recent experiments of Harley.

These observations agree with all literature that I have ever read, and with my own experience in the examination of this drug, which covers several years, but even in view of this fact, I find on the market a fluid extract of conium leaves, assayed and wrapped with a printed circular on Assayed Fluid Extracts, which under the head of conium leaves the following claim appears:

> Galenical preparations of this drug and of the seeds are notoriously unreliable; an alkaloidal standard for this drug is therefore a marked advance. Our fluid extract contains 0.50 per cent. coniine, estimated by weighing the muriate which is to be preferred over any method of titration.

It may be of interest to the reader to learn that upon procuring two samples of this brand of fluid extract of conium leaves, that both were found to contain mere traces of *coniine*, discernable only to the olfactory nerves, after the addition of an alkali, and heat. Such facts are to be regretted, as one example like this does shame to the commendable subject of assayed Galenical preparations. It is surprising to learn that a large manufacturing house would throw such a reflection on their own work, in the way of assaying fluid extracts, by publishing such absurd results or claims. It is hoped, however, that such will be speedily corrected and the truth made known, *i. e.*, that the most carefully prepared fluid extract of conium leaves cannot contain any appreciable amount of coniine, as the drug originally does not.

In conclusion, it may not be out of of place to suggest a fair requirement for the U. S. P. tincture and alcoholic extract of conium seed (fruit), viz: That 50 c. c. assayed by the same process as applied to the fluid extract, shall contain 0.045 gramme of coniine muriate by weight, equivalent to 0.035 gramme of coniine, and that 2. grammes of the latter shall contain 0.064 gramme of coniine muriate by weight, equivalent to 0.050 gramme of coniine or 2.5 per cent.

Laboratory Parke, Davis & Co.,
Detroit, August, 1890.

BOTANY AND MATERIA MEDICA.

CASCARA SAGRADA AND ITS ALLIES.*

BY H. H. RUSBY, M. D.†

It is somewhat peculiar that it should so frequently be the case with our most important drugs that the determination of their origin, or their positive identification, should be attended with great difficulty. Scarcely any study connected with pharmaceutical science has presented greater difficulties than that of the Cinchona barks. Two specimens scarcely to be distinguished externally might represent positive extremes as to their yield of valuable alkaloids. Even microscopical characters frequently failed, and the appearance of the growing plants or herbarium specimens often gave no clue, or even increased the bewildering maze by the gradations and intermixings of the species, so that at length it came to be an accepted principle that successful buying could be based only on chemical assay. Similar difficulties are presented by the several Cinnamon barks. We cannot always distinguish between cassia bark and an old cinnamon bark that has not undergone the customary processes, and it is only by flavor and odor that we can judge of quality. We are informed that the collectors of the wild products cannot distinguish between the many species and varieties as they grow by their external marks, and depend upon smell and taste in their selection. As the value of Quebracho becomes more generally accepted, we begin to hear of two or more varieties that are readily confused at the point of growth, and the same thing is true of Coto.

In the case of *Rhamnus Purshiana*, we have all these difficulties strongly pronounced, and at the same time we miss the presence of any principle like oil of cinnamon or alkaloid of cinchona, the estimation of which can serve us as a guide. Not until the medicinal preparation has been made and administered, and its effect observed, have we been accustomed to appeciate the nature of the bark employed. That one preparation will differ widely from another in its medicinal effect, is a matter of every-day observation by all. Yet we cannot assume that gross carelessness has been displayed in certain cases. The cause is to be found in the natural difficulties attending the selection and identification of the material. As usual, the difficulty begins in the field. If the collector encounters a locality where the plants are typical, or of a variety diverging from the alternative species, no difficulties are presented. But if he happens to encounter some of the intermediate forms, he should not be too sharply reproached for falling into error. Even accomplished botanists who have written special treatises on these plants have done as much. Thus Mrs. T. S. Brandegee, late Mrs. Curran, wrote as late as 1888: "All our forms (of *R. Californica*), running together, seem also to run into *R. Purshiana;*" and Prof. William Trelease, of the Missouri Botanical Garden, writing a year later, says: "In the broad-leaved form (of *R. Californica*), distributed and described by Howell as *R. occidentalis*, from Oregon, * * * this species appears to range further northward than usual, and to approach the preceding (*R. Purshiana*). Indeed, some herbarium specimens are hard to place." Only last month I detected in one of our largest herbaria a sheet of *R. Purshiana* which had passed for a generation under the eyes of our botanists as a form of *R. Californica.*

The difficulty is that we cannot know at the outset which botanical characters, or the characters of which particular organs, are to possess the greatest value in classification. In one group of plants, like the immense genus Solanum, the length and form of the calyx-lobes, and the size, form and direction of the anthers, are well nigh invariable in the same species and serve as infallible marks for determination, while in another genus or family these characters vary widely in different individuals of the same species or variety, and are thoroughly worthless as specific characteristics. It is only after a group has been considerably studied that we can learn which characters to especially rely upon in its classification.

Under such circumstances as these it is only the most able and experienced collectors who can expect, in certain localities, to collect purely the genuine Cascara Sagrada, and we can expect nothing less than that more or less spurious material will get upon the market. At times the proportion of such bark has been very large, while again there would be, for a time, but little of it seen.

Provided that it is once collected, whether mixed with the genuine or offered separately, the ordinary buyer is quite unlikely to detect the error. As will be seen by the series of specimens presently to be exhibited, the similarity in the gross appearance of the genuine and spurious barks is much greater than any existing between the herbarium specimens, and is indeed so great that while we may be able in general to distinguish between them, yet we cannot claim to be able to do so in all cases, and I find myself totally unable to indicate a sufficiently characteristic difference in description. Being up to the present time without any chemical tests for distinction, we are reduced to the necessity of relying upon the section and the compound microscope if we would be certain of our determination in the absence of herbarium specimens. Throughout a long experience with this article, I have been accustomed to demand leaf and flower specimens to accompany the bark samples. But this requirement cannot always be complied with, and moreover we must be able to satisfy ourselves of the identity of these with the bark which they accompany.

---

* Read before the A. P. A., Sept. 11th.

† Professor of Botany and Materia Medica in the College of Pharmacy of the City of New York.

From the habitat much assistance can be derived, because, while the ranges of the respective species are not rigidly restricted, yet they are rather clearly defined.

There are certain species which we can rule out as not presenting for us any interest, their barks being altogether unlikely to present themselves under the name of Cascara Sagrada. One is the *R. alnifolia,* which occurs so rarely in the Cascara district as to require no attention. Another is the *R. crocea,* with its several associated species or varieties, which could not possibly be mistaken for anything else. Their twigs are more or less spinescent, the leaves oval or roundish, very thick and commonly spiny-toothed; and the fruit small, roundish, and red. The bark presents no similarity whatever to Cascara Sagrada, nor indeed to that of any other species of the genus. This leaves us to consider only the *R. Purshiana* and the *R. Californica,* with the somewhat doubtful species *rubra, occidentalis,* and *tomentella,* associated with *R. Californica.* Of these the *R. rubra* of Greene (*R. Californica,* var. *rubra,* of Trelease) may be dismissed with the remark that, occurring high in the mountains, out of the reach of bark collectors, and being, according to description, too low and straggly to admit of its bark being readily marketed, it does not concern us. I regret that I have no specimen of this to exhibit to you. *R. occidentalis* of Howell has not, up to the present time, been reported frequently enough to constitute an important factor in this problem; but it is not at all unlikely that future explorations will reveal its presence in sufficient abundance to indicate a danger of its collection.

Our principal task, then, is to discriminate clearly between the *R. Purshiana* and the *R. Californica* with its variety *tomentella,* as it is the latter species which has constituted the entire adulteration or substitution thus far.

Considering first the botanical characters, I can say that, for my own part, I have not met with any specimens of these species about whose identity I have been in doubt. Such difficulties as do arise are caused by the tendency of the *R. Californica* to vary toward *R. Purshiana.* The latter is a very well marked species indeed, and not at all inclined to vary. The following description of it by Trelease can be accepted as well characterizing it:

> Small tree with somewhat pubescent twigs; leaves 2 to 6 inches long, on short downy petioles, typically thin and mostly dull, more or less hairy below and on the veins above, broadly elliptical, very obtuse to abruptly blunt-pointed, rounded at base, irregularly and closely serrulate or denticulate and often obscurely crenate; peduncle mostly 8 to 30 mm., and pedicels 4 to 6 mm. long.

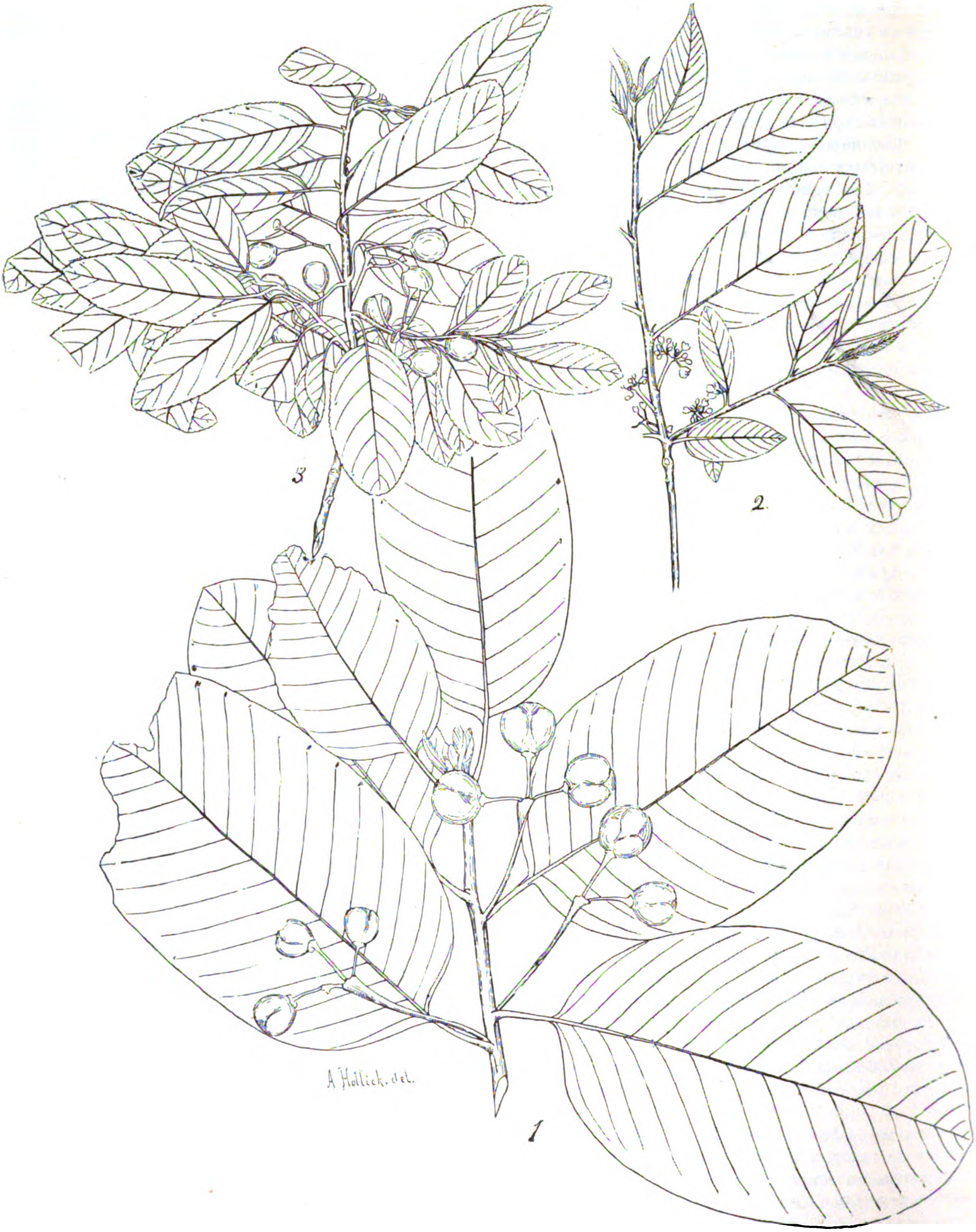
Of *R. Californica* a satisfactory description is not so easily given, as in most of its characters it is quite variable. I therefore content myself with indicating the few distinctive characters between it and *R. Purshiana.*

First, I may state, as regards the regions where these plants occur, that the *R. Californica* occurs only sparingly in northern California, becoming more abundant and variable southward, and extending eastward through Arizona, New Mexico and Texas, and southward into Mexico. In the southern and south-eastern regions it becomes replaced by its var. *tomentella,* which for our purposes need not be considered separately from the *R. Californica. R. Purshiana,* on the other hand, occurs only sparingly, even almost rarely, in Texas, Colorado, New Mexico, Arizona, and southern and central California, becoming abundant in northern California and very abundant in Oregon and Washington, and extending east to the Bitter-Root Mountains. Thus it will be seen that if the bark comes and is *actually collected* from north of California it is presumptive evidence that it is genuine. The probabilities of adulteration increase with its southward source, and if collected in, or south of, central California, it is to be looked upon with the greatest suspicion.

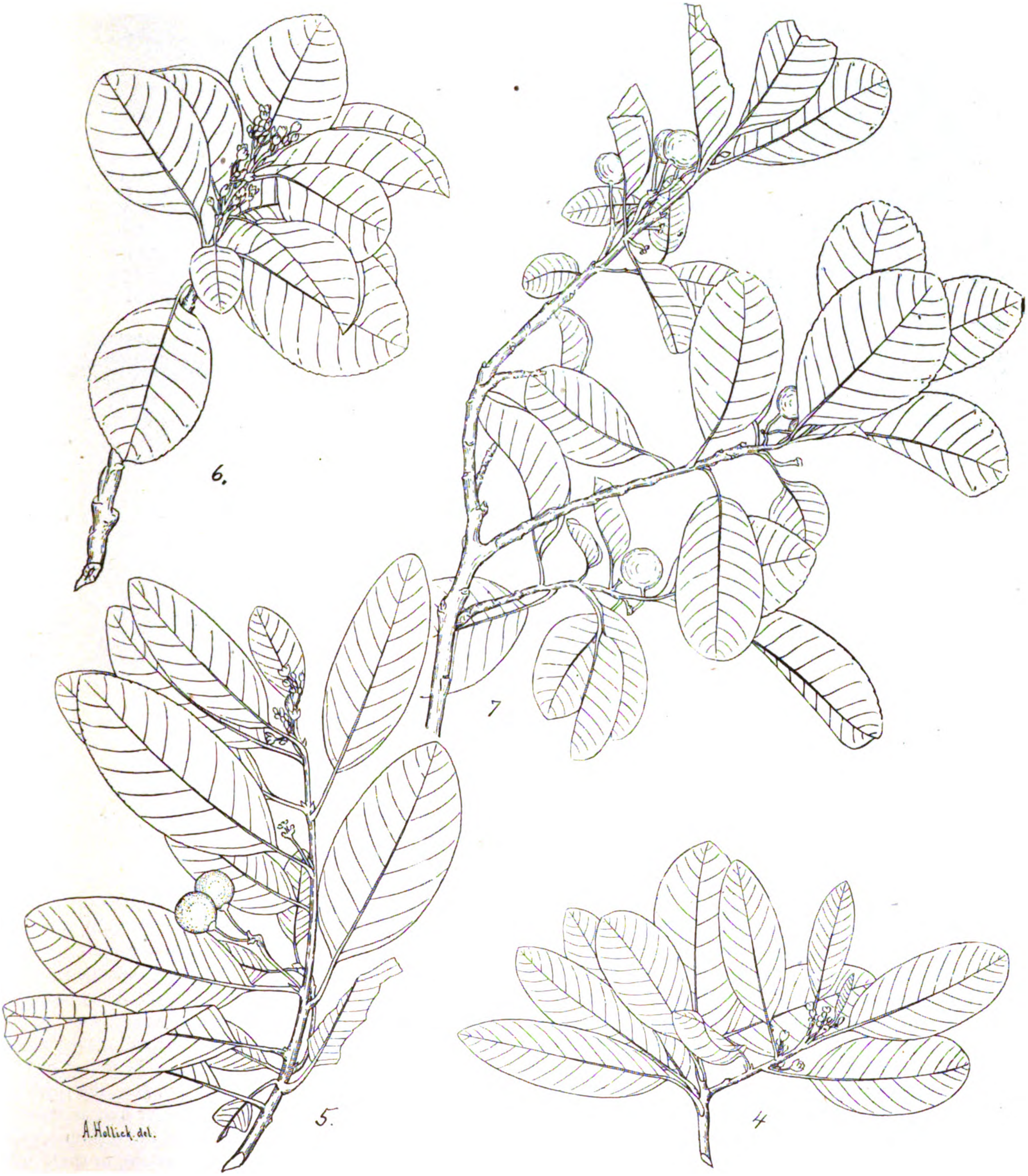
The dimensions of the *R. Purshiana* are ordinarily greater. Although I have found it growing to form masses of shrubbery, yet this is comparatively rare. It is commonly a tree, the trunks occurring separately. Its habitat is well described by Sargent as being "the sides and bottoms of cañons in coniferous forests." Its extreme dimensions are forty feet in height by a foot to a foot-and-a-half in diameter. From one-third to one-half this size is customary.

R. Californica, on the other hand, more commonly grows in copses, and rarely as a tree, its extreme dimensions being, according to Pringle, thirty feet in height with a diameter a little exceeding a foot.

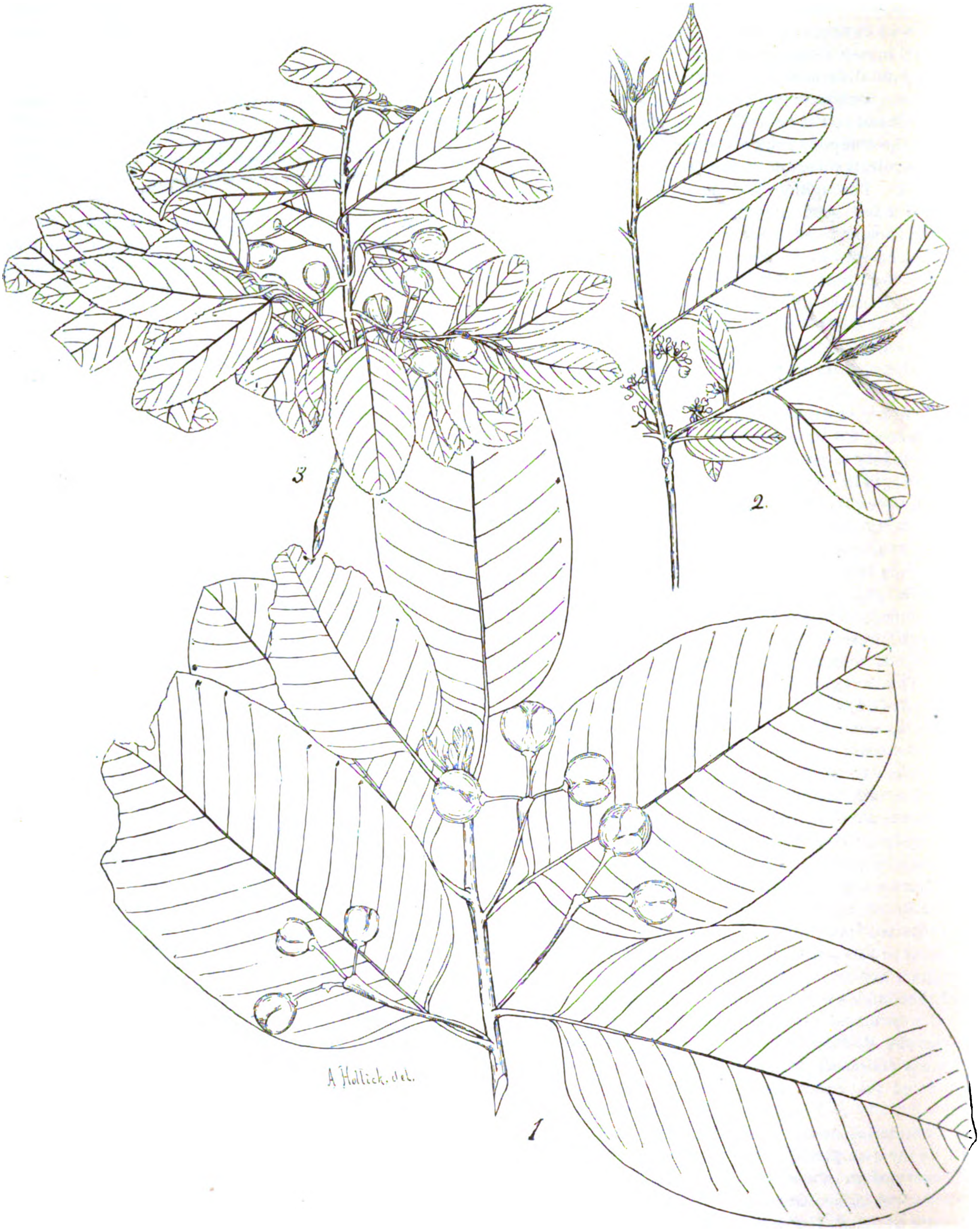
The wood of *R. Californica* is described as light, soft and coarse-grained, with many rows of open ducts marking the annual layers, and the medullary rays narrow and obscure. That of *R. Purshiana* is light, very hard but not strong, close-grained, compact and satiny, with the medullary rays thin but numerous. These differences of structure I find well supported by those of the two barks, as will be shown later.



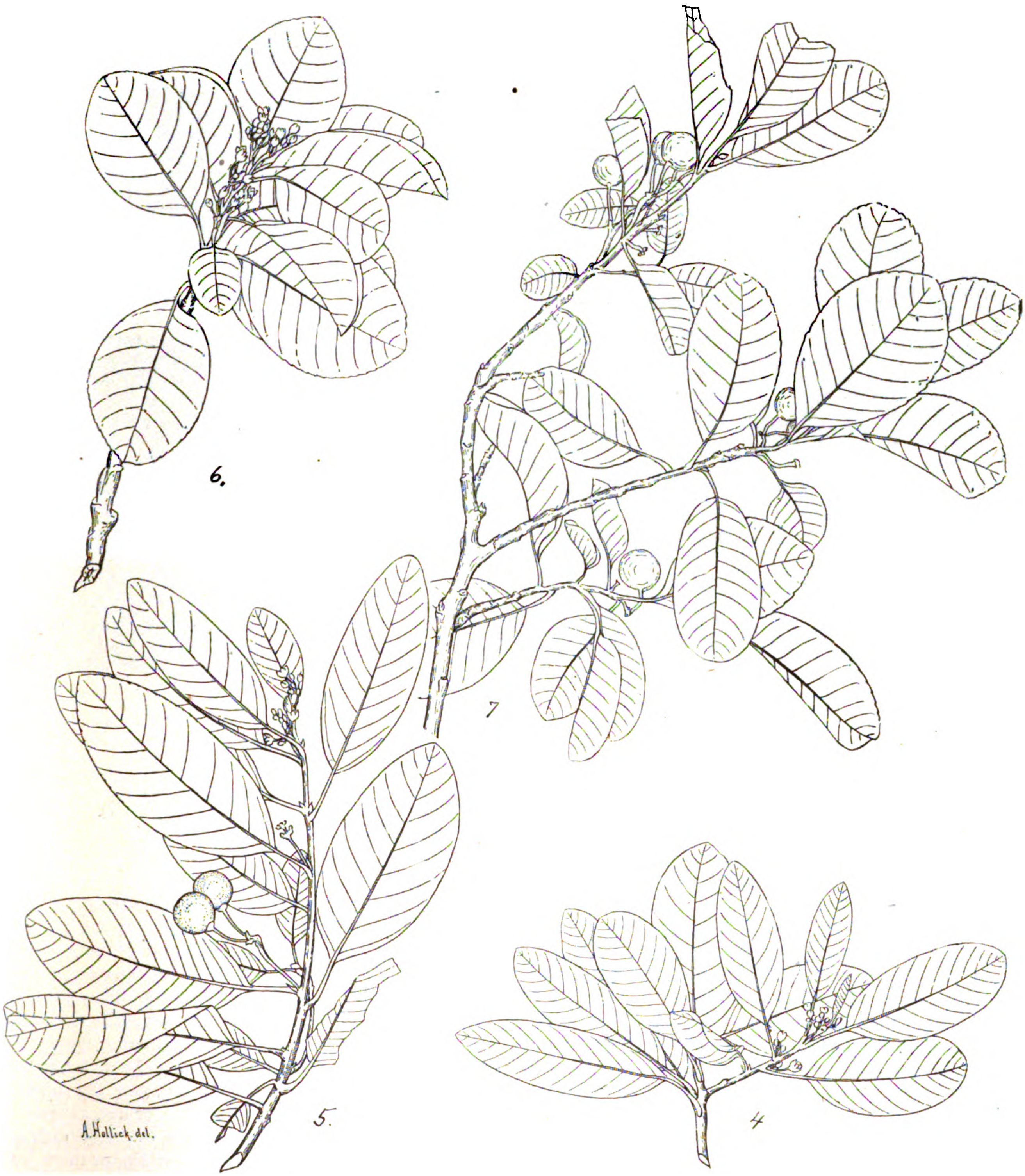
Explanation of Cut.—No. 1.—Fig. 1, fruiting branch of *Rhamnus Purshiana*, DC.; Fig. 2, flowering branch of *R. Californica*, Esch.; Fig. 3, fruiting branch of same. (All reduced about one-fourth).



Explanation of Cut.—No. 2.—Fig. 4, flowering branch of *R. tomentella*, Benth.; Fig. 5, fruiting branch of same; Fig. 6, flowering branch of *R. occidentalis*, Howell; Fig. 7, fruiting branch of same. (All reduced about one-fourth).



EXPLANATION OF CUT.—No. 1.—Fig. 1, fruiting branch of *Rhamnus Purshiana*, DC.; Fig. 2, flowering branch of *R. Californica*, Esch.; Fig. 3, fruiting branch of same. (All reduced about one-fourth).



Explanation of Cut.—No. 2.—Fig. 4, flowering branch of *R. tomentella*, Benth.; Fig. 5, fruiting branch of same; Fig. 6, flowering branch of *R. occidentalis*, Howell; Fig. 7, fruiting branch of same. (All reduced about one-fourth).

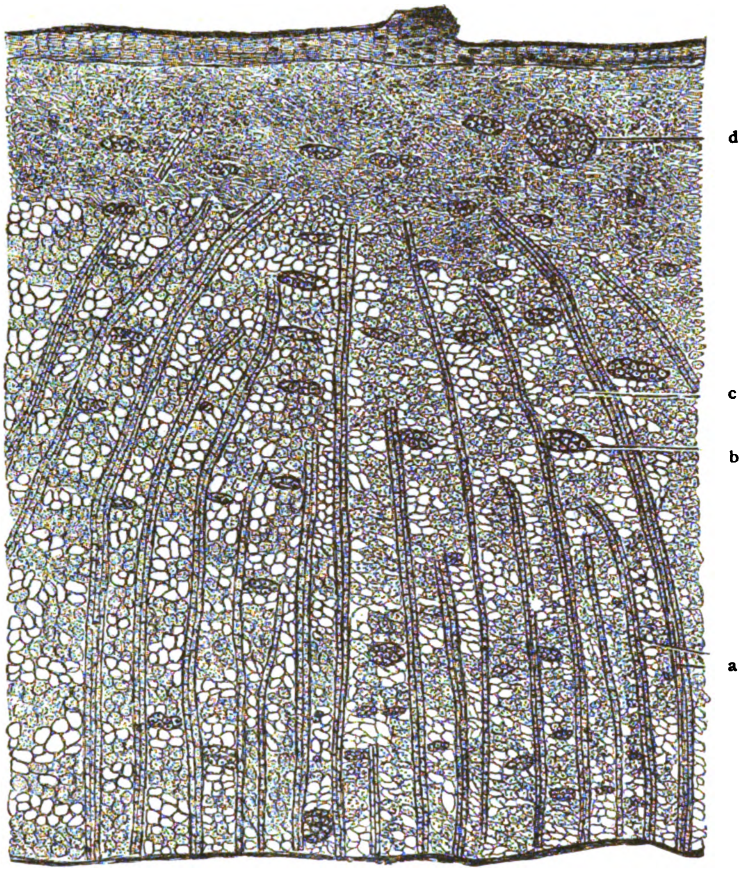


FIG. 8.

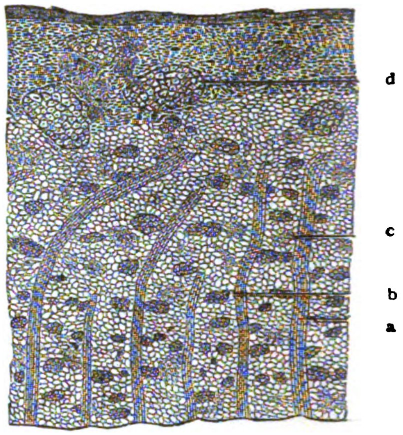


FIG. 9.

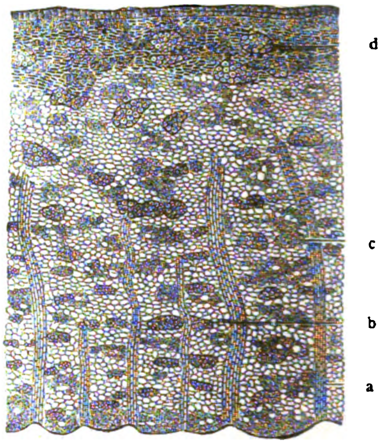


FIG. 10.

EXPLANATION OF CUT.—No. 3.—**Fig. 8, transverse section of bark of *R. Purshiana;* a, medullary rays; b, bast bundles; c, groups of parenchymatic cells containing particles of a blackish resin; d, large yellow areas (schlerenchymatic cells). Fig. 9, *R. Californica*, the same. Fig. 10, *R. tomentella*, the same. All magnified about thirty diameters.**

The characters of the branchlets cannot be distinguished in description, as those of *R. Californica*, even in the type, may be, like the petioles and inflorescence, either pubescent or smooth.

The petioles vary greatly in length, but they are commonly two or three times as long in *R. Purshiana.*

It is in the leaves that we find the chief distinguishing characters. Those of *R. Purshiana* are from 2 to 6 inches long, broadly elliptical, the base occasionally slightly cordate but generally rounded or very slightly produced, and the apex rounded or very shortly pointed. The margin varies from nearly entire to slightly crenate and finely serrate. They are deciduous, thin and veiny, green both sides but somewhat paler below. The lower surface is densely and softly hairy, the veins hirsute. The upper surface is softly hairy when young, but becomes smooth or nearly so, except within the strong channel along the midrib, which remains reddish—or whitish—hirsute. The leaves of *R. Californica* are very distinct. Those of the var. *tomentella** are strongly whitish downy underneath and may be at once distinguished, so that it is only the typical form with which we are especially concerned. Its leaves are only half the length of the last, elliptical oblong to obovate, rounded or slightly heart-shaped at the base and commonly short pointed, but often rounded at the apex, the margin varying from doubly serrate to almost entire. They are thick and persistent, generally evergreen, varying from smooth to pubescent, but the pubescence short and close and not at all the hairiness of *R. Purshiana.* The under surface is strongly reticulate reddish-veined, and the primary veins not nearly so numerous, straight, or fine, as those of *R. Purshiana.* Above, the channel of the midrib is shallow and inconspicuous, and smooth within, or there may be none. In this channel of the midrib I seem to have found an excellent characteristic.

*** Although I employ the commonly accepted name, I believe *R. tomentella*, Benth., to be a distinct species.**

The length of the peduncles and pedicels and other inflorescence-characters I have found too variable in *R. Californica* to yield me good characters. The fruit has been equally variable in the specimens which I have had an opportunity of examining, although that of *R. Purshiana* is 3-seeded and that of *R. Californica, usually*, 2-seeded.

Coming now to consider the bark, I find it extremely difficult, as already stated, to characterize its gross appearance. No description can apparently be written which will apply faithfully to all samples of one species and not to those of the other. The great difficulty is the strong disposition of these barks, particularly of the *R. Purshiana*, to become covered with a growth of lichens which mask their natural color and appearance. This natural color in the *R. Californica*, in specimens of a goodly age, but still retaining the periderm unbroken, is a slightly reddish dull gray, while in *R. Purshiana*, except when old, it is of a more lustrous reddish color. This reddish color in the *R. Purshiana* appears to be deepened in some specimens grown on humid low land and to give way to a grayish color, slightly resembling that of the *R. Californica*, in those grown upon the upland. In age of course this reddish periderm becomes lost and is replaced by a roughish gray surface. Upon the periderm of both varieties, when young, occurs numerous transversely elongated white or-light dots. In the *R. Californica* they are far less numerous and are early lost, while in *R. Purshiana* they persist for many years. All these characters, as stated, are more or less masked by the growth of lichens, but it is noteworthy that these lichens in the *R. Purshiana* tend to grow in conspicuous silvery patches, while in the *R. Californica* they frequently form a more uniform covering.

There is but little advantage in studying the inner surface. When freshly peeled both have a bright, light yellow appearance, which soon turns darker; but in the *R. Californica* this never becomes so dark as in the *R. Purshiana*.[*] Upon drying, the inner surface in both becomes marked by fine striæ and blister-like papillæ. The latter are commonly much more numerous, or prominent, in the *R. Californica*.

It is in the structure of these barks as revealed by the microscope that we find our unfailing guide to distinction. The characters and arrangement of the bast-bundles, resin-areas, and medullary rays, form quite as good evidence as do the leaf-characters above detailed, and guide us to the recognition of the barks alone, which the leaf characters cannot do.

The general structure of both exhibits medullary rays supported on either side with small bast-bundles, circumferentially elongated, of an elliptical form. Of these there are sometimes two, side by side between two medullary rays, while at other times a single large one reaches from one medullary ray to the other. In the *R. Californica* they are more likely to occur in pairs. At the region where the medullary rays terminate, and extending from there to the corky layer, begins a zone of very large resin-spaces (schlerenchyma) of variable size, and form but many times larger the bast bundles, which in appearance resemble them very closely indeed. There are many other points of interest and beauty in the structure; but these are omitted, this being not a structural description, but merely an account of the prominent distinctive marks of the two barks. The chief points in the structure of the genuine bark, *Rhamnus Purshiana*, have been very well presented by Prof. Prescott in *New Preparations*, Feb., 1879, p. 27. The general features above described present the following variations in the two barks on transverse section. The inner margin of that of *R. Purshiana* is even or only slightly wavy, while in that of *R. Californica* it is quite regularly and strongly crenate, a crenation corresponding to the extremity of each medullary ray. Apparently these crenations correspond to the blister-like elevations to be observed upon the inner surface. The medullary rays in *R. Purshiana* are numerous, thin, and run on an average fully ¾ of the distance across the bark. From the inner margin to about the middle of the bark, they run pretty straight and parallel, broadening markedly as they go. They consist commonly of two rows of cells. In the *R. Californica* these medullary rays are not more than half so numerous and they are twice as broad, running on an average not more than ⅔ the distance across the bark, the shorter ones being very short. They are crooked and non-parallel from the first. They consist commonly of three or more rows of cells. Considering the inner bark as extending only to the extremity of these medullary rays, we find that the outer bark is the area or zone in which occur chiefly the large resin-spaces already alluded to. It will thus be apparent that this zone of resin-spaces in the *R. Purshiana* occupies only about ¼ the total breadth of the section, while in the *R. Californica* it represents nearly ⅓ of it. Not only is this the case, but the resin spaces within the area in the genuine bark are irregularly and rather loosely and sparsely distributed, while in the *R. Californica* they are large, numerous, and thickly distributed, a zone near the cork being particularly occupied by long and narrow ones. The bast bundles are quite similar in both, but in the *R. Purshiana* they are, owing to the greater number of the medullary rays and the narrow spaces between them, considerably smaller and more numerous. As regards the longitudinal section, the difference in the width of the zone of resin-spaces and their thickness of distribution, bears corresponding distinctions. There is, indeed, no particular advantage to be gained, so far as I have been able to determine from the examination of longitudinal sections, the characters seen upon the transverse as here detailed being apparently ample for the determination of any specimen.

---

[*] A more extended investigation of this point since the reading of the paper indicates great difficulty in applying the principle, as the inner color depends so largely on age of tree and of the collected bark, and perhaps on the season when collected.

Concerning the bark of the variety *tomentella* of the *R. Californica*, the description of the latter will apply sufficiently well for our purposes.

With regard to the bark of the third species, *R. occidentalis* of Howell, I regret that my single specimen is not sufficient for a determination. It is so young that apparently its characteristic structure has not yet become developed, and it is impossible to say whether it would present upon maturity any marked distinctions from either the *R. Purshiana* or the *R. Californica*, and if so, from which one. What little I have been able to make out would seem to indicate that its structural relations are rather with the *R. Purshiana* than with the *R. Californica*.

For the generous contributions of the series of specimens on which this paper is based, I am under great obligations to the following gentlemen: Dr. S. B. Morse, of Cresswell, Oregon; Mr. J. B. Groat, of Oregon; Mr. Thomas Howell, Portland, Oregon; Prof. E. L. Greene, of the University of California, Berkely, Cal.; Mr. C. R. Orcutt, San Diego, Cal.; Mr. S. B. Parish, San Bernardino, Cal.; Mr. S. H. Friendly, Eugene, Oregon; Dr. H. P. Montbourne, Mt. Vernon, Washington Territory; Mr. R. Lafayette, Rossville, Cal.; and Dr. D. Whiteside, New Westminster, British Columbia.

MONTHLY REVIEW.

Mr. Seward W. Williams, in a paper on "Belladonna Plasters," read before the A. P. A., at Old Point Comfort (*Pharm. Record*, Sept. 22d, p. 362), emphasizes the fact of the inadequacy of the official strength requirement for this article. "To say," he remarks, "make 100 parts of mass from 100 parts of root, is to say make the plaster vary as the drug does." And then, quoting a long list of authors, he goes on to show that the drug varies from .25 to .75 per cent. in alkaloidal strength. "Obviously therefore," he concludes, "of two belladonna plasters one may be 200 per cent. stronger than the other, and yet both be strictly Pharmacopœial." In his own work he therefore discards the U. S. P. instructions and standardizes his plasters to ½ of one per cent. alkaloid. The hypercritical may haggle about the lack of perfection in the present state of our knowledge of the alkaloidal constituents of belladonna, but the practical fact remain that those patients who get the benefit of Mr. Williams' process get a reliable and uniform remedial agent, and that those who are the victims of the present U. S. P. prescription do not; and this after all is the consideration in which we are interested. The author of the paper believes that Scopolia rhizome is decidedly preferable from a pharmaceutical and analytical standpoint to belladonna root. He goes on to give a detailed account of the manufacturing process, from the point of commencement with the crude drug, and his article is enriched by handsome illustrations and valuable tables.

Those interested in the effects of medicine administered per stomach upon the functions of that organ—and who is not?—will find in the *Medical Age*, Sept. 10th, p. 385, an exhaustive article by Dr. Paul Cheron, entitled "The Modern Treatment of Maladies of the Stomach," in which the action of a great number of medicines, in various doses, upon the amount and quality of the several gastric secretions is concisely detailed. M. Cheron finds that "the greater number of medicaments retard gastric secretion." This includes "all the alkaloids, even to strychnine," while arsenic, paraldehyd, and thallin, seem to augment it. Because "alcohol at first impedes digestion, but quickly disappears from the stomach (Gluzinsky) and a very active secretion of gastric juice ensues," he would give a very small quantity of alcohol about half an hour before eating; forgetting apparently the greater danger to the hepatic tissue which depends upon this method of administration, a danger which could be avoided by placing the time five minutes instead of half an hour before eating. Of wines he considers the white "less dangerous" than the red. Carbonated water, tea, and coffee, have little or no action The author's language is so concise that without presenting the whole of his long paper we cannot present even an outline of his conclusions, and we can only commend the entire paper to our readers as one which will well repay a careful study.

Under the title of "The Analgesic Action of Methylene Blue," the editor of the *Ther. Gaz.*, Aug. p. 529, indulges in some curious, though thoroughly logical, reflections on the importance of the discovery of the possibility of coloring certain tissues by special coloring agents administered internally. This not only proves that certain remedies may have an affinity for special tissues, but it also gives us a definite guide to the experimental employment of such agents as, by their color effects, inform us of their special distribution in the system. The above-mentioned substance was found to "have a special affiinity for the nervous system, and especially fór the axis cylinders of the nerve fibres, whether sensory or motor." This suggested to Drs. Ehrlich and Leppmann its employment in disorders of those tissues, with the result of establishing a distinct analgesic action in certain localized painful disorders.

The *Medical Age*, Aug. 25th, p. 372, prints an abstract of an exhaustive summary by Egasse on Jambul in diabetes. The paper deals with both physiological and clinical results, which are mutually confirmatory of the increasing good repute of this remedy. It really seems that we have in Jambul an agent which possesses a certain degree of specific influence over this malady.

Evidence thus far does not go to show that it reaches the primary disease; but the great evil of diabetes is that one of its symptoms,—the enforced excretion of sugar by the kidneys,—becomes in turn a dangerous influence. So far as we are yet enabled to judge, Jambul acts principally in lessening this process and thus relieving the system of an influence which probably constitutes the worst feature of the disease.

The *Pittsburgh Medical Review*, p. 279, analyzes with much acumen the table of contents of a recent number of the *New York Medical Times* (Homœopathic), as indicating the present statistics of homœopathic practice. It points out that of 32 pages given to advertising, one poor half page only is distinctly homœopathic, and concludes that the actual therapeutics of this so called profession is about the same as that of the regular school in practice. It notes also that of 32 pages of reading matter, only 4 are homœopathic, while the most of the remaining are "highly imaginative, metaphysical dissertations, that might with propriety appear in any paper, technical or popular, and demonstrate the evident truth, that the thoughtful homœopath must exercise his rational faculties in other lines than those of Hahnemanism."

It is all very well to say that after all there is no material difference in practice between the homœopath and his scientific and plodding brother, but what is to be said of the utter want of principle which permits a large body of practitioners to seek to gain an advantage over their fellows by means of false pretence in this direction.

The report of the Committee on New Remedies of the New York State Pharmaceutical Association, composed of Dr. R. G. Eccles and Prof. W. A. Viall, is published separately in pamphlet form as well as in the *Proceedings*, and in the first mentioned form may be obtained of the Secretary, Mr. Clay W. Holmes, Elmira, at the low rate of 10c., with liberal discounts in quantities. All the recent new remedies are listed and described at greater or less length. Original investigations have been pursued in the case of some of them, in order to determine doubtful points. A number of valuable suggestions are offered, from which we extract the following:

> One fact that is of great interest to the student of Nature is, that the hypnotic power of these remedies increases in a definite order that runs parallel with chemical composition. The ethylic radical of organic chemistry is heavier than the methylic. The hypnotic power increases in proportion to the increase of ethyl over methyl radicals, so that, other things being equal, the greater the weight of the molecule, the more profound its action.
>
> Saccharin has been found to exert considerable antiseptic power, and in unison with this fact, holds its place of relation to this group. In its sweetening power it has found a rival in a new substance close of kin. Its patentees, not content with the profit derived from the sale of the pure article at a fabulous figure, resorted, according to the report of Prof. Remsen, to the mean trick of adulterating to about half its proper strength. This fact probably had more to do with the exclusion of all patented preparations from the next Pharmacopœia than anything else. It showed how utterly impossible it would be to fix a standard for a substance that might at the whim of the patentee change every week, or be never twice alike. With the exception of acetanilid, and one or two others of minor note, these late synthetic products will have no mention in the coming revised edition of our standard text-book on Materia Medica.
>
> Sulphonal occupies a rather anomalous position in regard to our patent laws. It is not patented in Germany, where it is made, nor in any other part of the world except the United States. In Germany it sells at 40 cents per ounce, owing to the competition of rival manufacturers. Here we pay $1.35 per ounce for it. The sick of the United States are taxed about 95 cents per ounce to pay a German a bounty his own country refuses him. Instead of encouraging home manufacture, our patent law puts upon it the stamp of prohibition. Work is stolen from American workmen to give to Germans, and an extra profit of nearly twice the value of that work added to augment the wealth of a German manufacturer.

The *Pharm. Record*, Sept. 22d, p. 361, prints a paper read by John F. Patton before the Pennsylvania Pharmaceutical Association, on Oil of Pennyroyal, in which he incidentally calls attention to the fact that it is not the large, luxuriant growing specimens of the plant, but the dwarfed and stunted ones, that yield the most largely of the oil. This is in accord with the principle that frequently, if not generally, obtains, that arid and sterile soils are most favorable to the development of essential oils in plants.

Mr. Umney points out (*Druggists' Circular*, p. 200, *Pharm. Jour. and Trans.*) that the test for Physostigmine given in the British Pharmacopœia is faulty in failing to specify the addition of ammonia or other alkali to the aqueous solution, which upon evaporation shall leave a bluish residue whose acidulated solution shall be "beautifully dichroic, blue and red."

The *Trinidad Agricultural Record* for July, contains as its leading article an interesting comparison between the sugar industries of Trinidad and Louisiana. From this it appears that the industry in the latter State is far in advance of that in Trinidad, the difference being attributed to a greater liberality on the part of our State and National Governments in experimental investigation, which has resulted in proving the economy of employing extensive modern machinery, notably the diffusion battery. By these modern processes the yield has become so largely increased as to cause a corresponding increase in the profits, and extension of the business.

Through the same journal we are informed that Prof. J. H. Hart, the Superintendent of the Royal Botanical Gardens in Trinidad, has had his duties extended to the supervision of the botanical stations at Granada and St. Vincent, and that possibly St. Lucia will be included.

The *Proceedings of the New York State Pharmaceutical Association for 1890*, contains, page 148, a contribution by Dr. John A. Gray, entitled, "A Chat About Pharmacognosy, with Suggestions for Home Study." Dr. Gray's order of topics in the study of any drug is as follows:

1.—NAME.

- (*a*) Latin (official).
  - Origin.
  - Significance.
  - Correct Pronunciaion.
- (*b*) English.
- (*c*) Trade, local or trivial (synonyms).

2.—ORIGIN.

(*a*) Botanical name.
(*b*) Natural order.
(*c*) Ascertain whether tree, shrub, bush, vine, etc.

3.—HABITAT.

(*a*) Commercial source.

4.—CULTIVATION.

(*a*) Where and to what extent.

5.—COLLECTION AND PREPARATION.

(*a*) By whom collected.
(*b*) Period of year in which collected.
(*c*) Methods of preparation.
(*d*) Varieties produced by different methods of preparation (applicable to a few drugs only).

6.—PHYSICAL CHARACTERISTICS.

(*a*) Compare the appearance of the drug in hand with the Pharmacopœial description.
(*b*) Compare different specimens of the same drug.
(*c*) Compare with other drugs having similar appearances.
(*d*) Compare varieties and note the distinguishing features of each.

7.—ADULTERATION AND SUBSTITUTION.

(*a*) Substances employed.
(*b*) Methods of detection.

Our attention has been called to a recent number of ***Florida Facts*** (Aug. 20th), containing a notice of the successful growth of the camphor tree in Florida, and favorably criticising a specimen of the gum camphor which had been distilled from trees grown in that State. The camphor tree is said to be a very rapid grower and perfectly hardy for the climate, since the experience of last winter showed the tree able to survive a frost which proved fatal to orange trees that were growing in the near neighborhood. A previous article from the same source comes to our recollection which advocated the cultivation of the tree and stated it to be perfectly feasible. This is the first time we have learned that the tree is already being grown in large numbers and that Florida promises so soon to be a commercial source of supply of the 'gum.' The distillation is said to be a very simple process, and in the opinion of the distiller of the sample, "more profitable than any other business in the State."

ANSWERS TO CORRESPONDENTS.

W. T. W. (Maryland).—The plant received is the *Gerardia pedicularia*, Lin. There are no medicinal properties recorded in its favor in the works on medical botany which we have consulted, but it belongs to an order (*Scrophularineæ*) from which are derived very many plants of our American Materia Medica. We recall at this present writing such plants as Digitalis, Carpenter's-square (*Scrophularia nodosa*, Lin.), Eye-bright (*Euphorbia officinalis*, Lin.), and Mullein (*Verbascum Thapsus*, Lin.). It would be difficult for us to presume to say what medicinal action might be expected from the plant before us, seeing that the plants we have just mentioned as belonging to the order, differ widely in their application and properties.

J. W. W. (Tenn.).—The name Twill-root mentioned by you we do not find to have been previously recorded, but we identify the specimen of rhizome accompanying as that of *Jeffersonia diphylla*, Persoon. The name Twin-leaf is that by which it is most commonly known.

M. W. (California).—"Mountain Peach." The specimen received of this name is undoubtedly the article which is known medicinally as Yerba Santa, or botanically as *Eriodictyon glutinosum*, Bentham. This would be a good time of the year in which to gather the shrub, since it is now fully covered with the resin to which doubtless its medicinal activity is due.

T. W., (Kentucky).—The State Analyst of New York, having recently been requested by the Secretary of the State Board of Health to give his opinion with regard to the wholesomeness of cotton-seed oil, and of lard and lard compounds into which this oil enters as a component part, replied as follows:

> I am clearly of the opinion that cotton-seed oil, whether used alone or commingled with other oils or fats, is a perfectly wholesome and nutritious food, and as easily digested and assimilated as any of the commonly exployed fats. In support of this view the opinion of numberless writers upon the subject, and of experts in chemistry and physiology, might be adduced. Throughout the cotton-growing States it has been for a long time very largely used, and the medical faculty of the Arkansas University say that it is to be preferred to other fats in many respects, 'agreeing with the most delicate stomachs, whether used in baking or frying,' and that 'not one instance has been given of health being in any manner impaired by the use, however free, of cotton-seed oil in food.' They say that thousands of hands employed in the cotton-seed oil mills are in the habit of making their dinners on the crude oil by dipping their bread in it, and some of them actually drink it, and yet from this free use of it nothing has ever resulted but the best of health.—***Garden and Forest.***

Nut-Cracking Department.

A Convenient Method for Weighing Mercury.

Every dispensing pharmacist has experienced more or less annoyance in pouring metallic mercury from large stock containers into small bottles, while weighing small quantities usually sold over the counter.

The exasperation which usually attends this operation can be averted by adopting the simple and inexpensive device shown in the accompanying sketch and briefly described as follows:

Fit a rubber stopper or sound cork tightly into the stock bottle, and, with a pencil, mark the dotted line from which the cork protrudes above the neck.

With a sharp knife cut into the cork a groove about $\frac{1}{16}$ of an inch in width and depth, and extending from about $\frac{1}{8}$ inch below the dotted line to the bottom of the cork, as shown in Fig. 1.

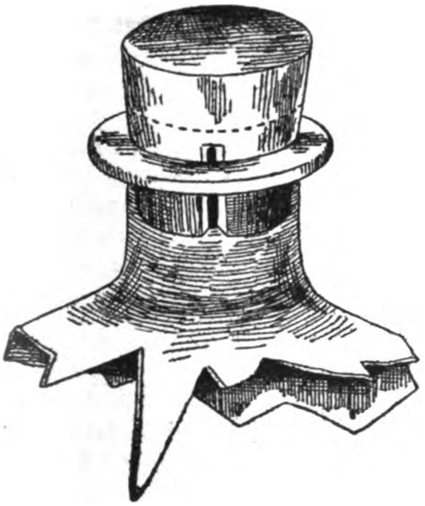


FIG. 2.

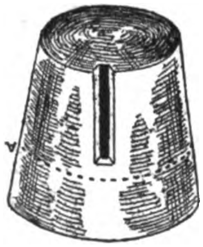


FIG. 1.

When inserted tightly, such a cork will hermetically close the bottle and prevent volatilization or spilling if the container is inadvertently overturned.

When a small quantity is to be weighed, slightly loosen the cork by pressing on the side near the groove, until, as shown in Fig. 2, a small opening is formed through which the mercury can be poured in a thin stream, easily regulated by touching the cork with the finger.

"*Mixtures*" *vs. Elixirs and* "*Manufacturers' Specialties.*"

Some few pharmaceutical writers are continually sending up a wail against the increasing practice among physicians, of prescribing elixirs and "ready made prescriptions," placed in the market by enterprising manufacturers, instead of prescribing medicaments to be extemporaneously combined at the prescription counter.

There appears to be very little cause for such objection when we consider that all physicians are not practical pharmacists, and, even if they were, the busy medical practitioner certainly has enough to keep in mind without attempting to memorize the solubility and compatibility of a large variety of chemicals, if he can readily avoid it.

In addition to this, dispensing pharmacists are sometimes incompetent, and, in consequence, correctly written prescriptions have been improperly prepared.

It is not surprising, therefore, that intelligent physicians choose to order ready made compounds, with assurance that they are prepared from selected materials, and that each ingredient is held in permanent solution, in preference to an extemporaneous mixture which might contain or deposit a sediment, or separate into two layers of liquid.

"Shake mixtures" are clumsy, dangerous contrivances even when properly labelled, and worse when directions to "shake the bottle before using" are accidentally omitted. Then, too, even such cautionary labels have been ignored by the patient with fatal results.

Salicylic Acid from Oil of Wintergreen.

"Ed."—The relation of "salicylic acid from oil of wintergreen" to the ordinary preparation in the market, is similar to that existing between benzoic acid from gum benzoin, and benzoic acid which is prepared artificially. Although perhaps identical in chemical composition, the two preparations differ materially in appearance and flavor; and whether this prejudice be reasonable or not, physicians are inclined to prefer those compounds which Nature provides ready-made, to any imitation prepared by artificial means.

Loss or Breakage in Transit.

"Clerk."—We believe it is not customary for shippers to hold themselves responsible for losses which may occur in the transportation of merchandise shipped by them, except in cases where the result is traceable to causes existing in their factory or to their own delinquency.

The transportation companies act as agents of the purchaser, who must look to them for reparation in case of loss.

As a matter of courtesy, however, it is expected that the shipper will afford reasonable assistance in the collection of such claims.

A queer case of responsibility was recently brought to our attention in Cleveland. A buyer of a suit of clothes was about to board a street car with the bundle under his arm, when the string broke and the clothes fell into the mud. He gathered them up, took them back to the merchant, and demanded another suit, claiming that the package was not securely tied. We did not learn how the matter was finally settled, but it suggested that druggists had better see that their bottles are securely corked.

Butter of Antimony.

"℞."—Some time ago we explained to a correspondent that authorities generally agree in assigning the name "Butter of Antimony," to a substance having the consistency of butter, for example: The U. S. Dispensatory states on page 890 that "pure terchloride of antimony, called by the earlier chemists, *Butter of Antimony*, is a white, readily fusible solid, of the consistence of butter, deliquescent, powerfully caustic, and volatilizable under an obscure red heat."

In the face of this, however, the term butter of antimony is by usage commonly applied to solution chloride of antimony, for which it appears as a synonym in the price lists of some of our leading manufacturing chemists, who almost invariably supply solution chloride of antimony, when butter of antimony is ordered.

Shake Mixtures.

F. M. T.—As shake mixtures are always unsightly and sometimes dangerous, it is customary with some pharmacists to assume that the prescriber wishes his liquid preparations clear and to so prepare them when possible without essentially altering the character of the mixture.

This is, in fact, so common a practice, that pharmacists frequently add sulphuric acid to mixtures of quinine sulphate, even when syrup is present, so as to make the prescription present a good appearance and be easy for the patient to divide into doses, without taking into consideration the fact that the bitter taste of quinine is increased by dissolving it.

When the vehicle happens to be Syrup Yerba Santa Aromatic, in which the resinous constituents are rendered soluble by aid of an alkali, the addition of acid causes decomposition attended with dense precipitation which entirely defeats the object of the prescriber.

Theoretically the dispenser should adhere literally to the prescription, and while we may know that doctors are not only fallible but sometimes careless, any practical deviation from it should be based upon sound reasoning.

It is a good plan to request physicians in your neighborhood to note especially on the prescriptions when they wish a "shake mixture" made, to assure its being so prepared and labelled.

Sample Bottles for Perfume.

It is a daily occurrence for customers to call upon the retailer for "some good perfume," and when the dealer places before them the one-half pint or pint stock containers of expensive handkerchief extracts, to apply liberal samples to their hand, handkerchief or clothing with a view of selecting a satisfactory odor.

Many dealers now avoid the loss attending this custom by placing samples of the various perfumes in acid test bottles, which can be purchased from any wholesaler at a nominal cost. These are provided with glass stoppers, elongated so as to reach to the bottom of the bottle, and serve as a convenient and economical means of sampling. It is desirable, of course, to have both stopper and bottle labelled to avoid confusion.

The Modern Pharmacopolist.

The modern pharmacist realizes that the drug business in common with several others should be done upon business principles; that you cannot sell what you have not got; that goods well displayed are half sold; that first-class goods sold at a reasonable profit are not only an advertisement but make a reputation; that instead of having his clerk waste half a day in manipulating some pharmaceutical preparation that could be bought of a reputable manufacturer for less than he could make it, he instructs that clerk in some practical business lessons.

The successful druggist buys only pure drugs and chemicals, and is capable of analyzing them to see that they are fully up to the Pharmacopœial strength, hires competent help, and keeps constantly at work himself, with the view of elevating and extending his business; he is accurate, polite, not overbearing, and uses all customers alike.

To Remove Floating Specks from Liquids.

Pharmacists are frequently annoyed to find a few floating particles of dirt from the cork or other sources, in a large bottle of limpid fluid.

Where the particles are not so numerous as to make the operation tedious, these can be easily removed without straining the whole preparation as follows:

Close one end of a glass tube (of suitable length and diameter) with the thumb, immerse the other extremity in the liquid and bring it as closely above the "speck" as possible. Raise the thumb for a fraction of a second, replace it firmly and remove the tube.

The occupation closely resembles fishing, and as the operator, after a little practice becomes an expert, a tedious task is soon transmuted into a diversion.

Glycerin Suppositories.

Glycerin suppositories have been successfully employed in the treatment of certain forms of constipation, both in adults and children. Experience has shown that perfect solution is not indispensable to their activity, but that they are capable of producing a laxative effect without any considerable loss of weight. They are therefore not entirely soluble in water at the temperature of the body, and special attention has been directed to the fact that their activity is not dependent upon their ready solubility.

Face Powder.

The following is a very acceptable formula for face powder:

		Avoirdupois.
℞	Talc, in fine powder.....	10 ozs.+192 grains.
	Magnesium carbonate	7 ozs.+138 grains.
	Salicylic acid	16 grains.

This serves as a base mixture which can be tinted with carmine or umber, and perfumed to suit the taste. Aside from its agreeable sensible properties, it is quite bulky, and a small quantity by weight will fill a surprisingly large number of the ordinary sized boxes for retailing.

Mistakes.

Information comes through the daily papers from New York of an old and respected resident of Digby, N. S., who, after several days' illness, had a prescription filled at a local drug store. One dose caused fearful suffering and death.

Investigation revealed the fact that the prescription clerk had sent 15 grains of strychnine through error, and that the whole amount had been taken.

It is unnecessary to point out the moral.

A Detroit drug clerk recently put some sweepings containing a quantity of resin in the stove, and an explosion took place. The store was "pied," and drugs and fixtures scattered all over the room. No one injured.

We recently read of a drug clerk in Troy, N. Y., who sold a fly blister for a belladonna plaster. It was applied by a patient suffering from pains in the chest. The patient's agony was intense. The plaster was removed and some of the flesh with it. The clerk said he found the fly blister in the drawer marked "belladonna plasters."

A well known pharmacist of Brooklyn recently had a very unpleasant experience. He prepared some prescriptions for an infant which became worse after taking the medicine, and subsequently died; he was charged with having made a mistake, the newspapers giving prominence to the statement that a bottle said to contain lime water "smelled strongly of carbolic acid." The coroner was called and instituted an investigation. The cork of the bottle referred to had a carbolic odor, but the content of the bottle was found to be lime water, as labeled. A *post-mortem* examination was made, by which it was found that the child died from natural causes.

Syrup Benzoin Compound.

W. F. S.—We have prepared from the following formula a *clear* syrup, each teaspoonful of which represents about ten minims of Tincture Benzoin Compound:

℞	Tinc. Benzoin Comp.............	4 oz.
	Water	8 oz.
	Terra Alba.......................	1¼ oz.
	Sugar...........................	12 oz.

Mix the tinc. benzoin comp., water, and terra alba, and set aside until the solution becomes clear. Decant into a filter, and allow to drain until 8 fluidounces of filtrate are obtained. In this dissolve the sugar, and strain.

It should be borne in mind that while a goodly proportion of the balsamic acids may be retained in such a syrup, the resinous and oleoresinous constituents are to a great extent removed.

CHESTNUTS.

"Never 'fool' in business matters."

"Getting cheated yesterday is what teaches a man to cheat to-day."

"A philosopher is a man who doesn't want the things he can't have."

"Use your own brains rather than those of others. Learn to think and act for yourself."

"If the lion and the lamb lie down together, it is after the lion has had a good dinner."

"Do not kick every stone in the path—more miles can be made in a day by going steadily on, than by stopping."

"Learn to say 'No.' No necessity of snapping it out dog fashion, but say it firmly and respectfully."

"Do not meddle with business you know nothing of."

"Do not stop to tell stories in business hours. If you have a place of business, be found there when wanted."

"If every man's internal care
Were written on his brow,
How many would our pity share
That share our envy now!

"It is only National history that 'repeats itself.' Your private history is repeated by the neighbors."

"Make no haste to be rich, if you would prosper. Small and steady gains give competency with tranquillity of mind."

"Precious little bottles
Sitting in a row,
Filled with potent liquid.
Known as H_2O.

A drop of Mother Tincture,
Humble though it be,
Makes the tenth dilution
When poured into the sea."

Correspondence.

PARIS LETTER.

A New Pharmaceutical Excipient—Variation in Strength of Active Principles of Digitalis—Tison's Opium and Cocaine Pills for Incoercible Vomiting—Substitution by a Pharmacist of "Suggestion" for Morphine—Hypnotic Suggestion as an Excuse for Murder—Bromide of Gold—Anecdotes of French Physicians.

M. Adam, in a note to the *Jour. des Conn. Méd.*, describes a resin soap of his preparation which he finds very well adapted for a new pharmaceutical excipient. His formula is as follows:

Resin	100 parts.
Carbonate of potash	30 parts.
Water	300 parts.

The mixture is heated to the boiling point, when gases are disengaged. It only remains to evaporate the mass to any desired consistency. This soap does not give a precipitate with marine salt; is soluble in water; does not soil linen or cause "grease spots;" and is a much cheaper excipient than vaselin, lanolin, lard or cerate. It must not be used with metallic salts; it acts well in extinguishing mercury and makes excellent preparations with camphor, naphthol, sulphide of carbon, tar, etc. Dr. Mourot, according to M. Adams's statement, believes that this excipient will have a high value in the preparation of many of the medicaments used by veterinary surgeons.

The strength of the various active principles of digitalis still remains unsettled despite all recent researches. Dr. Bardet does something for us by advising that German digitalin (or digitalein) is of so uneven a quality that its use should be prohibited absolutely in medicine. Dr. Bardet also advises that, in order to get products of constant activity they should always prescribe chloroformic digitalin. He says, furthermore, that chloroformic digitalins, when genuine, are wholly soluble in chloroform, and that there is an equality of action between amorphous chloroformic digitalin and crystallized digitalin.

Tison's opium and cocaine pills for "incoercible" vomiting seem to have met with much success and many pharmacist's now keep them on hand. As stated at the recent Congress for the Advancement of the Sciences, the pills should be composed of one centigramme each of hydrochlorate of cocaine and extract of opium. A considerable quantity of a dry excipient, like liquorice or lycopodium, should be used, to prevent a tendency to deliquescence. According to statements by Dr. Marfan and others, these pills may be given to the number of five of six daily, and should be taken ten minutes before eating. They have been successful in certain severe and obstinate conditions such as dilatation and cancer of the stomach, tuberculosis, peritonitis, migraine, meningitis, pregnancy, etc. I cite the formula because it is being largely called for, and also on account of the fact that the above simple mode of preparation has been found to be the best; other and more complicated ways have been tried but did not work so well.

The questions arising from hypnotism are exciting much interest among pharmacists, but experienced men among the latter are advising the brethren not to become involved in experiments in which hypnotism plays a part. The pharmacist should have the confidence of the public; he will not retain it if his acts savor in any way of trickery. It appears that a young pharmacist of the Boulevard du Temple received an application from a girl suffering from some sort of pain in the chest, for a mixture such as she had used before, and which contained morphine. The clerk, believing he had an "impressible subject," substituted pure water for the morphine solution, and told the girl that the pain would leave her if she took half doses of the medicine. She did so, and the experiment was successful. But the girl had a sister who was being treated for pleuritic pains by the doctor who had prescribed the original mixture, and he told the pleuritic girl to take some of her sister's mixture. She did so, but obtained no result. The doctor examined the preparation, and, finding it to consist of water only, proceeeed to demand an explanation of the pharmacist. The latter was obliged to confess that he had been making an experiment in hypnotism. "Of course," remarked the doctor, "you took no money for pure water." But the pharmacist had thoughtlessly done that very thing, and he felt that his consequent position was a bad one. Well, the doctor allowed him to pass an anxious night, and then told him that he had concluded not to prosecute. The doctor was himself imbued with hypnotism, and this was all that saved the pharmacist. By the way, a queer case of hypnotic suggestion was lately before the courts. A woman was arrested for killing her illegitimate child. Under the guidance of an able lawyer, she swore that she did not kill the child of her own will, but under the dominant power of another mind whose influence she was unable to resist. Her lover had, in fact, "suggested" to her the hour and the manner of death for the child, and the woman had carried out the details because she could not help doing so. She was acquitted, and the lover was not even arrested, as "he could not properly be accused of murder."

We hear some talk of the bromide of gold and its value in epilepsy, as also in certain lesions of the stomach and some forms of nasal catarrh. But it does not seem likely that the American pharmacist will have much call for it at present. Some one asked an eminent practitioner here what he thought of the new gold preparations. "I think about them," said he, "as much as one of my predecessors thought about the gold preparations which were brought out forty years ago for the cure of syphilis; that is to say, I believe that gold has a much better effect when it is given to the doctor by the patient than when it is given to the patient by the doctor." So, if the use of the bromide of gold dies out on account of a successful joke being attached to it, it will not be the first time in the history of medicine that this circumstance has occurred.

This is not exactly the place for medical anecdotes, but two short ones reported in the *Union Médicale* are too good to pass by. The Duchess of N. came to Paris, accompanied by a young and pretentious doctor to get special advice. Professor Lasègue was called, and the two differed in the matter of diagnosis. "Professor," said the young man, "I am the regular attendant of her highness, and I never make a mistake." "And I," remarked Lasègue, "have the honor to be a professor in the Paris Faculty and I am deceived at least twenty times a day." The Duchess concluded to follow the Professor's advice and was cured. The other anecdote is told of Dupuytren. He was consulted by a marchioness for a contracture of the muscles of the jaw, and who, for some months had been unable to say a word. She had consulted various specialists without relief, so that Dupuytren believed he had a trouble to contend with which was probably dependent upon a nervous complication. When the Surgeon called, he advanced toward the lady without a word, and suddenly gave her a vigorous slap over the region affected. The storm came on at once and commenced with vigorous orders from the lady to her servants to put the Professor out of the house, which they did, the latter being too full of laughter to enter a protest. An hour or two afterward Dupuytren received a call from one of the lady's servants who brought him a generous fee, a statement that she was perfectly cured, and a request he would dine with her.

LONDON LETTER.

The British Pharmaceutical Conference.

The main subject of interest this month has been of course the British Pharmaceutical Conference meeting in Leeds, which occupied three days, Monday, Tuesday and Wednesday, commencing September 2nd.

This meeting is, as you know, an annual institution which is held in various towns of the county, the plan of always following the British Association having been adopted. It affords an opportunity for bringing forward interesting subjects for discussion, for the reading of scientific papers, for renewing old acquaintances and making new ones. Perhaps these latter objects and the excursions, drives, *conversaziones*, etc., which are arranged in their behalf, have most to do with the popularity of the Conference.

The first day of the gathering is always devoted to the reception and *conversazione*. This function at Leeds was attended by almost 300 persons, and was made interesting by a display of lantern slides, electrical phenomena, microscopic objects, etc.

On Tuesday morning the real work commenced. As soon as the reception and other formalities had been got through with, the report of the executive committee, and the financial statement were read. Then came the President's address, the subject of which was "Fashion in Medicine." The particular fashions referred to and deprecated were the replacement of old remedies by new medicaments; the wide-spread adoption of new synthetical compounds; the prescribing of concentrated medicines and of ready-made physic; and the injudicious selection of household medicines by the public. With reference to the sale of patent or stamped medicines, Mr. Chas. Ummey stated that the revenue from the stamp duty was £220,000 while the estimated amount of money annually spent in these preparations by the public was £1,500,000.

The report of the Unofficial Formulary Committee contained nothing but a statement that the work was in abeyance pending the completion of the B. P. Addendum (1890).

The first paper, properly so-called, (the above report was included under the heading of papers in the official programme) was on the "Relative Alkaloidal Values of Annual and Biennial Henbane," by Mr. A. W. Gerrard. He showed that there is no real justification for the preference given to the biennial leaves and tops; they have practically the same alkaloidal value as the annual. The first year's root of the biennial plant (containing 1.6 per cent. of alkaloid) was recommended for official recognition.

In a "Note on *Strophanthus hispidus*" (to continue with the eight papers which fall into the class "pharmacological"), Mr. E. H. Holmes drew attention to the necessity of accurately describing the seed of *S. Frazer* (East African) in the addendum to the B. P. so as to avoid confusion. The paper of Mr. C. J. S. Thompson on the "Official Buchus" was in some respects similar to that of Mr. Gerrard. Mr. Thompson showed that the leaves of *Barosma serratifolia* are of the lowest medicinal value as indicated by the amount of oil and resin present (resp. 1 and 3.45 per cent.) *B. betulina* contains 1.45 per cent. oil and 4.25 of resin; *B. crenulata* 1.6 per cent. oil and 3.75 per cent. resin.

Writing of "Mannas," Mr. D. Hooper stated that their solubility varied from 1 in 1½ to 1 in 12 of water; all of them contained a substance which reduced Fehling's solution and 10 out of 11 were dextro-rotatory. Dr. Mootoswamy presented a paper on "The Leaves of the *Curry*" (*Murraya kœnigii*) used in S. India for seasoning curries as well as medicinally for their stomachic stimulant and tonic properties. A glucoside (named *kœnigin*), two resins, and a small quantity of essential oil, were yielded by these leaves.

Mr. W. Kirkby, F. L. S., drew attention to the "Adulteration of Saffron" with the fibres of a species of sedge. He found a sample which contained 41 per cent. of the sophistication; it is distinguished by the turkey-red color of the fibres, by their nearly uniform thickness, and by their apparent sapidity.

The bark of *Oroxylum Indicum* (Bignoniaceæ) is used in India as an astringent and tonic in diarrhœa and dysentery; it seems also to be a powerful sudorific. Messrs. Naylor and Chaplin obtained from it a principle in lemon yellow crystals (*oroxylin*), an acrid and an astringent principle, also a sugar.

Turning now to the ten papers which fall into the class "chemical" we begin with that of Mr. C. H. Bothamby, F. I. C., F. C. S. This chiefly dealt with the so-called *meta-bisulphites* or, more correctly *anhydro-sulphites*, consisting of two molecules of acid sulphite less a molecule of water, thus: $2MHSO_3 = M_2S_2O_5 + H_2O$. It seems that acid sulphites very rapidly change into anhydro-sulphites even in solution. As met with in commerce they occur in large well formed crystals, transparent at first, but becoming coated with a white film.

The curious variation from one day to another in the amount of nitrous nitrogen in drinking water (which was pointed out in a paper by Dr. J. C. Thresh) seems likely to open up a new field of work in water analysis. The time is not far distant when waters will have to be watched for days before an opinion is pronounced upon them. Dr. Thresh described a colorimetric test for nitrites in potable water depending on the old potassium iodide and starch test.

From two papers on "Glycerin," by Mr. L. Siebold and Mr. Lewkowitsch, we learn that arsenic cannot be removed from the compound by distillation; and that it might be entirely separated by treating the diluted liquid with freshly precipitated ferric acid.

"The Comparative Examination of the Tests for Methylated Spirit," by E. J. Millard and A. C. Stark, contained nothing new. The authors recommended Cazenenve's test as most delicate and convenient. Mr. John Hodgkin gave an interesting demonstration of the "Chemical Relationship of Synthetic Remedies." A note on "A Compound of Caffeine with Mercuric Chloride," by Mr. R. H. Davies, F. I. C., F. C. S., contained little of practical interest, and the same may be said of a note on "Bile Analysis," by T. Fairley, F.R.S.E. The same author contributed a note on the "Estimation of Unsaponifiable Fats in Grease and Oil." After saponification of the glycerin fats the unsaponified portion was dissolved out with ether, and directly estimated by weighing. A test for cotton-seed oil in lard was suggested, based upon a rather minute difference in the specific gravity of the two substances.

Mr. H. Broadbent gave the average results of the analysis of a large number of samples of cream of tartar of French, German, and Italian origin; a single sample had also been made made in Spain. The figures given indicated that the article is imported in a fairly uniform condition and quality.

Nine papers now remained, of which eight were pharmaceutical in subject, and the ninth dealt with "Antidotes to Strychnine;" Mr. Siebold found chloral and antispasmodics the best remedies.

"A Plea for Mercurous Iodide" was put in by Messrs. Martindale and Salter, who suggested a process for its preparation, involving the presence of about 12 per cent. of free mercury; this excess they thought ensured the stability of the compound. In the prolonged discussion, the chief point was whether the want of constancy and definiteness in a substance justified its exclusion from the Pharmacopœia.

Two papers on "Chloroform Water as a Preservative for Stock Solutions, Infusions, Organic and Alkaloidal Liquors," etc., did not add anything to our knowledge of this preservative, but merely corroborated old testimony. There were also a couple of papers on "Malt Extract," one of which, by Mr. J. C. Mundy, advocated the use of liquid extracts of malt, and the other recommended a modification of Duggan's process for the estimation of the diastasic value of the preparations.

Mr. J. McIntyre stated that the tendency to developing milkiness of syr. ferri hypophosph., B. P. C., might be overcome by the addition of citric acid (1 grain to 4 ounces).

Lastly, two monumental papers were contributed by Messrs. E. Wright and E. H. Farr, on "The Best Menstrua for Preparing the Various Pharmacopœial or Alkaloidal Tinctures." Mr. Wright demonstrated, in a lengthy treatise bristling with percentages, that some of the official menstrua might advantageously be modified, even in the direction of lower alcoholic strength; and Mr. Farr suggested for the tinctures named after, a menstruum containing in ten volumes the number of volumes of absolute alcohol indicated by the figure that follows: Aconite, 7; belladonna, 9; cinchona, 7; colchicum, 5; conium, 5; digitalis, 7; gelsemium, 7 and 9; henbane, 7; jaborandi, 3; stramonium, 7; veratrum, 5.

This concludes the list of the papers, which, it will be seen, were not at all of a surprising or brilliant nature. The attendance was about an average one, commencing with something like 200, and falling off to 50 or 70, to again largely increase during the last hour. The fourth day (Thursday) was entirely given to pleasure-seeking, but the weather was very unfavorable. The meeting next year will be in Cardiff (Wales), under the presidency of Mr. Wm. Martindale.

PHARMACEUTICAL NEWS FROM GERMANY.

The Scientists' Congress—The Estimation of Morphine—Analysis of Insect Powder—A Simple Process for Purifying Air—The Preparation of Chloroform—African Drugs from the German Colonies—The Scheme for an International Pharmacopœia—Pharmacies in America—Next Year's Congress.

In consequence of the short interval between the International Medical Congress and that of the Scientists, it need not excite surprise that the latter, which was held in Bremen, was not largely attended. Nevertheless great interest was taken in the proceedings generally; a fair number met together to take part in the Section of Pharmacology and Materia Medica. In my letter published in the August number of the DRUGGISTS' BULLETIN, I indicated three promising subjects which were to be treated, and perhaps it will be convenient to first give attention to the results of the work on morphine estimation, insect powder, and male-fern extract.

The paper of L. Dieterich on the "Estimation of Morphine," consisted in part of criticism of the process described by Looff, and the author had also to defend his process from some sharp criticism which was directed against it. He further gave another modification of his process, the detailed description of which would occupy too much space.

Considerable interest was excited by the communication of Dr. Thoms on the "Analysis of Insect Powder." A curious result of the author's work was that the presence of choline in insect powder seems to be pretty well confirmed (being stated also in other quarters). A very characteristic reaction for choline is the formation of choline-platinum chloride.

The third paper, on "Extract of Male Fern," was by Kittl, who described a process of his own which he regarded as eminently suitable for finally removing the causes of the continual complaints with reference to the activity of the extract.

The same author communicated other papers of a practical kind, among which was a description of a simple process for disinfecting, or rather purifying, the air of sick rooms. He had observed that some vapors of chloride of ammonium, which were once accidentally present in his room, were very easily absorbed by a wet sheet, which for some reason was hung up in the same apartment. Being struck by this, he gave particular attention to the action of such wet sheets upon the air of enclosed spaces, and found that they rapidly collected fine particles of dust, as well as microbes which may be present in the air. Even if by this means perfect purification of air is not attainable, the arrangement is as beneficial as the plan of opening doors and windows to allow the passage of fresh air—a practice which is full of risk for the patient in spite of all care.

The third case treated by Kittl has a special interest for retail chemists as it related to the "Preparation of Chloroform Ointments." First of all, remarking that chloroform is largely used externally as an application to rheumatic and painful parts generally, he observed that the general method of application was as a liquid mixed with oils, spirit, etc. Although ointments were sometimes prescribed, they were not very satisfactory, as the addition of chloroform to an ointment base such as lard liquifies the latter, while considerable loss by evaporation occurs while the preparation is in the mortar. Kittl advises medical men to prescribe the ointment with the addition of bees-wax.

Ointments so made retain their chloroform for years without evaporation, and are of such consistency that spread on linen they can be applied after the manner of of a plaster. The author prepares the ointments in a wide-mouthed stoppered bottle in which the wax and lard are first melted. Before solidification the previously weighed chloroform is introduced and the whole constantly agitated until cool.

Dr. Hausmann called attention to the drugs of the German-African Togo district. As a matter of course, now that Germany has African colonies, strenuous efforts are being made to render available the medicinal flora of that Continent, and while some years ago practically nothing was known of its nature, we now receive a number of interesting products. Thus, for instance, the speaker showed West African tamarinds, the rhizomes of *Maranta arundinacea* (arrowroot), kola nuts, shea butter nuts, and the so-called Niger coffee (seeds of *Cassia occidentalis*) which has been repeatedly recommended as a substitute for coffee, but will hardly find a market especially as it contains no caffeine. The seeds have been very frequently brought over to Europe and investigated [for instance by Elborne and others).

Hausmann pointed out that up to the present the drugs coming from West Africa leave much to be desired in point of quality and external appearance, and those who know anything about the export of drugs will not be surprised that such is the case. We Germans are comparatively new colonists and naturally lack the experience in the collection and preparation of drugs which the English have acquired during the centuries they have been practically interested and engaged in such work.

A number of papers dealt with matters of more general interest. In my letter published in your July issue I gave some information on the New German Pharmacopœia. Dr. Hirsch referred to the changes which the new work has introduced; on the whole he thinks it can only justly be called a new and enlarged edition. Of the 60 new monographs only 40 can be reckoned as indicating additions to the remedies, as 20 consist of general descriptions. He also pointed out certain defects of the new book which raised a general discussion.

A further discussion of great interest gathered round the consideration of the Principle of an International Pharmacopœia. I gave particulars of the proceedings of the International Medical Congress, so far as they were concerned with this subject in the Pharmacological Section under the Presidency of Prof. Liebreich. Several of the pharmacists then present, thought it desirable to recur to the matter again, under conditions more favorable to it consideration, at the Scientists Congress. Dr. Hirsch (author of the "Universal Pharmacopœia") regarded an International Pharmacopœia as impossible, but at the same time he believed that in some preparations (such as acids, extracts and tinctures), there ought to be uniformity; the number which would be affected by such a change he estimated at about 300. It must be gratifying to American pharmacists that Hirsch did not hesitate to say that fluid extracts are the only rational form of administering drugs as liquids, and he expressed surprise that in some of the new European pharmacopæias, such as the Dutch, no notice at all has been taken of this class of Galenicals. [It cannot be denied that in the manufacture of such standardized liquids, Germany has much to learn, and ought to follow on the same lines of scientific research as have obtained in your country through the enterprise of individual pharmacists and of large manufacturers, among whom Messrs. Parke, Davis & Co., must be primarily mentioned, as their fluid extracts were certainly the first to be used in this country, and are still in request where reliable preparations are wanted.

It was also pointed out in the discussion that von-Waldheim had once worked out some general rules for International preparations for the International Pharmaceutical Conference, but Dr. Hirsch thought these too old and perhaps not got up with sufficient care.

Among those who were present and took part in the discussion was Dr. Hoffmann, of New York, who urged that now was the time to take action in the matter unless Germany wanted to follow behind and be continually in the wake of other countries.

Dr. Monheim, who has been engaged in the installation of a pharmacy on the German model in Ecuador, and who also visited Chili, Argentine Republic, and Peru, gave a vivid description of the state of pharmacy in South American countries. Dr. Hoffmann then gave a description of the life, education, etc., of a pharmacist in the United States.

With reference to next year's Congress, some amount of rivalry was aroused between Frankfort-on-Main and Halle, both desiring the honor of receiving the gathering; in the end, however, the offer of Halle was accepted.

Partly owing to the simultaneous running of a local exhibition in Bremen, and partly owing to the short interval since the International Medical Congress, no exhibition was this year held in connection with the Congress.

CHICAGO NEWS.

The rivalry between the Illinois and Chicago Colleges of Pharmacy, rumors of which have before been communicated to the readers of THE BULLETIN by our Chicago Correspondent, has recently assumed an interesting aspect.

Were we to use the flowery language of the dramatic reporter, we would say the fun grows "fast and furious"

Seriously it is to be regretted that any institution designed for the instruction of students in so important an art as pharmacy should occupy itself with internecine strife and petty jealousies.

Our Correspondent sends us a lurid picture of some of the events marking the recent history of one of these institutions which are any thing but complimentary. But we will allow him to speak for himself:

The days of the inquisition, burning witches at the stake, drawing and quartering witnesses, etc., are past. Progress is noticeable all along the line—even in modifying the penalties for treason. A member of one of these institutions (the C. C.) had the audacity to allow one of his clerks to go to the other college (the I. C.)!!! At this outrageous evidence of treason there was general horror, with threats of excommunication for the offending member. On the other hand, a member of the I. C., willfully hired a student of the C. C. which permits its students more time for store work, and the effect was general rejoicing, a medallion of honor, honorary membership, etc., etc. As a business transaction it makes a difference whether a student is absent four days or two and one-half days each week for college, but as a matter of principle no member of an infallible college ought to allow his boy to attend a fallible school. Death ought to be the least penalty for such an offense. But what should be the penalty for the C. C., which sought to seduce Prof. Oldberg from the I. C. as a professor in its own halls?

⁂

This country is a sacreligious and skeptical one anyway. If you put up a sign in your window that you are a pupil of Liebig, people stay away and warn others to stay away because so many charlatans don this title; if you are a member of some Examining Board, or some Advising or other committee, people elevate their noses, and if you make use of one of these titles on your letterheads recommending a certain broomstick patent, they are apt to ask: Who knows whether this is all *bona fide*, and how the honorable gentleman got possession of his honor?

⁂

But the deed has now been done! At the semi-annual meeting of the C. C., Oct. 14th, in the year of our Lord 1890, Mr. A. G. Vogeler, editor of the *Western Druggist*, moved that an investigation be made against a certain member of this College who had recommended a boy to attend the Illinois College, and if said charges be found true, to drop said member from aforesaid College. Oh, that the muse of Offenbach, or Gilbert and Sullivan, were mine to do this subject full justice! It must be difficult for outsiders to comprehend the situation.

This action was supplemented by dropping a gentleman, a Chicago College graduate and ex-Trustee, who paid dues as long as dues were in existence, from the membership roll of said College without even a notice that he was to be dropped; his treason consists in being the partner of a man who is a member of the Illinois College.

Your Correspondent is a member of the Illinois College, which as a corporation has no soul, yet I have had for years a boy in my employ attending the Chicago College, and my colleagues in the College don't even know it, and if they did, would not censure me, because I hire the boy on account of getting double the hours service from him. The Chicago College permits students to put in at stores all time except thirteen hours a week; the Illinois College exacts thirty hours a week of its students.

Since the Chicago College is not a corporation without soul, it ought to make me an honorary member—for allowing a boy to go to the Chicago School—being a member of the Illinois School. I believe I would receive such honorary recognition were it not for the fact that this country has no Offenbach to portray the comic opera effects of this condition of affairs, and is therefore without capacity to do the grotesque side of this episode justice. W. BODEMANN.

NORTHWESTERN UNIVERSITY, DEPARTMENT OF PHARMACY, ILLINOIS COLLEGE OF PHARMACY.

CHICAGO, September 6th, 1890.

To the Friends of the Illinois College of Pharmacy:

As premature statements have been published in the newspapers and elsewhere that the two Colleges of Pharmacy of this city were to be united, the Trustees of the Illinois College of Pharmacy regard it as due to the friends of the College that the following public announcement is made:

Earnest and unselfish friends of pharmaceutical education have suggested that a union of the two Colleges would be of great advantage. There have been consultations to that end, prompted by the wish that the means and facilities of the two institutions might be joined together under one permanent, conservative, harmonious and wise government. The object in view was a great one, worthy of the best efforts of public spirited and broad minded men. It was sought to establish a union College, as a department of Northwestern University, upon the platform occupied by the Illinois College of Pharmacy, with the diploma of the Northwestern University conferred upon all graduates, and an enlarged but permanent Board of Directors consisting of gentlemen of recognized high character, large experience and ripe judgment. The faculty of the union colleges was to consist of the present faculty of the Illinois College of Pharmacy, with such additions as might be necessary to efficiently provide for the consolidated classes. Had it been found that the accomplishment of such a union would have involved any change in the name of the department of pharmacy, it would not have been consummated without conferring upon each graduate of the Illinois College of Pharmacy a new diploma of this department under its new name in addition to the one already conferred. But the consultations referred to proved fruitless.

No change has taken place in the Illinois College of Pharmacy from its establishment down to the present time, either in its Board of Trustees or in its Faculty. We have the pleasure to announce, however, that the name of Professor E. B. Stuart is now added to the Faculty. Professor Stuart is well known as an efficient and popular teacher.

The winter term began on the last Thursday in September, at the College, southwest corner of Lake and Dearborn streets.

Our Alumni, students and prospective students are assured, that all due care and diligence will be observed in the future as in the past, to maintain the high standard of efficiency and reputation which the Illinois College of Pharmacy has attained.

DAVID R. DYCHE,
EZEKIEL H. SARGENT,
THEODORE H. PATTERSON,
HENRY S. MAYNARD,
WILHELM BODEMANN,
Board of Trustees.

Faculty:—Henry Wade Rogers, A. M. LL. D., President; Oscar Oldberg, P. D., Dean, Professor of Pharmacy and Director of the Pharmaceutical Laboratories; John H. Long, Sc. D., Professor of Chemistry and Director of the Chemical Laboratory; W. L. Quine, M. D., Professor of Physiology, Therapeutics and Toxicology; W. K. Higley, Ph. C.; Professor of Botany and Microscopy, and Director of the Microscopical Laboratory; Ernest B. Stuart, Ph. G., Professor of Materia Medica and Pharmacognosy; Maurice A. Miner, Ph. C., Assistant to the Chair of Pharmacy, and Instructor in the Pharmaceutical Laboratory; Mark Powers, B. Sc., Assistant to the Chair of Chemistry, and Instructor in the Chemical Laboratory.

The New College Buildings.—A large site for the use of the Illinois College of Pharmacy, in perpetuity, was secured this spring, and plans for the buildings are under consideration. It is proposed to provide ample, convenient and thoroughly equipped laboratories and other requisite means for post-graduate work, special courses and original research, in addition to the most perfect facilities for the regular courses of instruction already in operation, and to form a museum and a library worthy of the most thoroughly equipped college of pharmacy in the United States. Building operations will not be undertaken until next spring.

The College has now a larger attendance than ever before, larger than any college west of Pennsylvania, the increase in the number of students being more than forty per cent.

A BOTANICAL GARDEN.

TO THE EDITOR OF THE DRUGGIST'S BULLETIN:

There are many persons in this country, who are interested in medicinal botany in a very special manner, such as professors and lecturers on botany and materia medica in our universities and colleges, and there also are many other students of the science—interested in a lesser degree—who would wish to see established a botanic garden of medicinal plants. This country is not fortunate enough to possess a "Kew Garden" of its own, in which may be studied living specimens of almost every known plant, but, if we did possess such an institution, we do not think that dissected specimens would be furnished from it. Prof. Buysman, of Middelburg, Holland, has long had a small, private garden of this kind from which analytical or dissected specimens of many of the world's medicinal plants are furnished at about the cost of their production. This garden has long since become too small to accommodate any increase in the number of plants, and also insufficient for supplying the number of specimens solicited by correspondents. Contemplating the increasing need for larger facilities, Prof. Buysman has decided that a building is necessary large enough to represent all the plants of the European and American Pharmacopœias, but not being possessed of sufficient funds to accomplish this as a private enterprise, he feels constrained to bring the matter to the attention of all botanists and scientific men. We have therefore consented in the interests of this branch of pharmaceutical science to receive any subscriptions which may be donated for the establishment of this botanic garden or *Hortus plantarum diaphoricarum*. In the personal character and scientific attainments of Prof. Buysman we have every confidence. We have on several occasions purchased from him analytical specimens for our herbarium, and are in a position to testify to the high class scientific character of the material which he has supplied us. We are pleased to recommend to the attention of the scientific and botanic world Prof. Buysman's desire to enlarge his field of operation, and we wish him success in the botanic garden which he contemplates laying out.

Prof. B.'s circular (in English) will be sent on applation: He desires us to state that any sum, however small, will be acceptable.

PARKE, DAVIS & CO.

POISONING BY HYOSCINE.

EDITOR DRUGGISTS' BULLETIN:

Apropos of your case of hyoscine poisoning reported in September BULLETIN, you may recall my article of last year (BULLETIN, 1889, p. 305), in which is embodied some advice on this subject, knowledge of which might have prevented the result you mention. This was as follows:

I desire to call attention to hyoscini hydrobromas an alkaloidal salt prescribed lately to some extent. I have seen a report by Dr. Carey, that after dispensing $\frac{1}{100}$ (one-hundredth) grain, serious poisonous effects were observed, once, in his own person.

The name hyoscine is given by Ladenburg to the second alkaloid of henbane. Not long ago this hyoscine was supposed to be a derivative, a product of the splitting up of hyoscyamine.

Buchheim proposed, to avoid such errors, to call this second alkaloid *Sikeranike*, the Persian name for henbane. His advice seems to have been neglected.

I recall a case some time ago, in which hyoscine hydrobromate was prescribed but could not be got, when *the physician authorized the apothecary to dispense hyoscyamine*—one alkaloid being ten times stronger than the other! *A true salto mortale.* Fancy that the reverse had occurred, and hyoscine dispensed instead of hyoscyamine! The *Pharm. Weekblad.*, mentioning this case, appeals to its readers to take a lesson from such a shiftless style of prescribing.

The DRUGGISTS' BULLETIN for April, 1889, treats of a similar relation between the different aconitines in the market, and this article we can, in this connection, earnestly recommend to the readers of the BULLETIN.

J. B. NAGELVOORT.

MEETING OF THE MICHIGAN BOARD OF PHARMACY.

A meeting of the Michigan Board of Pharmacy for the purpose of examining candidates for registration, will be held at Lansing, Wednesday and Thursday, November 5th and 6th, 1890.

The examination of both Registered Pharmacists and Assistants will commence on Wednesday at 9 o'clock A.M., at which hour all candidates will please report at Representatives Hall. The examination will occupy two days.

Special railroad rates of one and one-third regular fare for the round trip have been secured for this meeting. Reduced rate certificates will be mailed by me to all who apply for them.

JAMES VERNOR,
Secretary.

A CORRECTION.

CHICAGO, Sept. 9th, 1890.

As my name has been published by the Chicago College of Pharmacy among the members of its faculty, and as the catalogue so printed has been distributed contrary to my protest, I am obliged to take this means of announcing that the use of my name in this connection is wholly unauthorized. I resigned my position in the Chicago College of Pharmacy simultaneously with the other members of the Faculty about two months ago; my resignation was duly accepted, and I have since accepted a position in the Faculty of the Illinois College of Pharmacy.

Respectfully,
E. B. STUART.

Abstracts and Translations.

Pharmacology of Condurango.

Dr. Guyenot has just published in the *Bulletin de Therapeutique* an important study of the Condurango (*Gonolobus Condurango*, Triana), from which we extract the most interesting parts for our readers:

The chemical investigation of the bark has not been prosecuted to a great extent; the glucoside isolated by Vulpius (*condurangin*) has not the characteristics of a chemically pure substance, and could only be a mixture. As prepared by Merck, *condurangin* is an amorphous powder, yellowish, bitter, and slightly odoriferous, soluble in water, alcohol, ether, and chloroform. The aqueous solution effervesces on agitation, becomes turbid and coagulates on heating, and resumes its limpid appearance on cooling. It is toxic in the dose of two centigrammes per kilogramme of weight with carnivorous animals; in a smaller dose it induces ataxic symptoms similar to those of *tabes dorsalis*. Loss of appetite is an invariable symptom of the poisoning; in the first stage there is a flow of saliva with vomiting.

The bark, no more than the glucoside, cannot be considered as really curative of cancer. The success which has been attributed to it in the treatment of cancer of the stomach, is due most certainly to errors of diagnosis. The observations made by Dr. Guyenot permit him only to assert the following:

Condurango overcomes the pain in certain gastralgias, even in ulcer of the stomach. It lessens and arrests most frequently the vomiting caused by anatomical or functional alteration of the organ.

It has appeared to us to have a special action in the hæmatemeses.

It exercises a most beneficial influence on the appetite and the general condition of the gastralgic patients.

It possesses, probably, cholagogue properties.

We believe, then, that from these different points of view it has a determined place in therapeutics, and that its employment can render great service when the stomachal digestion is defective, assimilation impeded, the functions of nutrition languishing—which produces a rapid emaciation of the patient and a cachectic condition of brief duration.

We reproduce *verbatim* the pharmacological part of the work which we are reviewing:

The dried bark of the *Gonolobus Condurango* is administered, first, in powder, in the dose of 2. to 4. grammes daily, in powders; in alcoholic tinctures, 1 to 5, 10. to 20. grammes daily.

In syrup:

Alcoholic tincture	20 grammes.
Syrup of bitter orange peel	80 grammes.

A teaspoonful contains 4. grammes of the tincture. Two to five spoonsful daily.

These are the formulas which we have employed, and to these we add, for the information of our readers, those which the following authors have employed:

Dr. Cæsares—

Condurango bark	16 grammes.
Water	3 glasses.

Make a decoction. One glass morning and evening.

Friedreich—

Condurango bark	15 grammes.
Distilled water	300 grammes.

Macerate for 12 hours, and reduce by boiling to 150. grammes. A tablespoonful three times daily.

Krauss—

1.	Fl. ext. condurango	10 drops.
	Chloral hydrate	1 gramme.
	Syrup of bitter orange peel	20 grammes.
	Distilled water	120 grammes.

Three to six teaspoonsful per day.

2.	Condurango bark, powdered	15 grammes.
	Chlorhydric acid	15 drops.
	Syrup bitter orange peel	150 grammes.

A tablespoonful every two hours.

We do not regard it as devoid of interest to remark that the alcoholic preparations have a composition entirely different from the aqueous; these latter, in short, do not contain any resinous matter, and very little of the toxic principle, *condurangin*. Moreover, if the aqueous preparations be filtered hot, the *condurangin* is then completely eliminated, since, as stated, it coagulates with heat. This chemical peculiarity explains to us, perhaps, the opinion expressed by Bofito and Maragliano, who claim to have administered condurango in considerable doses without obtaining any physiological effect.—*L'Union Pharmaceutique*, Sept. 15th, 1890.

Drug Eruptions.

Dr. T. A. McLaughlin, in a paper read before the District of Columbia Medical Society, thus discusses drug eruptions:

There are, according to Behrend, whose classification is generally accepted, two kinds of drug eruptions: 1. Pustular, embracing the iodine and bromine eruptions; 2. The various eruptions occasioned by other members:

The class of pustular eruptions appears to be dependent upon a thorough saturation of the system with the drug, increasing as the quantity is increased, and diminishing as the dose is reduced. The drugs are eliminated by this means, since bromine and iodine have been detected in the secretion of the pustule. Persons with dark oily skins are frequent sufferers by these eruptions.

The second class are usually acute, sometimes occurring with a chill, high temperature, and gastric disturbance; in other cases these symptoms are wanting. The eruption appears as soon as the general system is affected by the medicine in the general circulation, and at other times not until a large quantity has been absorbed.

Idiosyncrasy is most frequently the only cause to which we can attribute the peculiar effect produced by certain drugs. The usual causes, such as age, sex, social conditions, habits, etc., which we find exerting a modifying or controlling influence in the production of skin diseases, appear to have no special influence in causing the development of drug eruptions. These peculiar effects are more common during the warm weather, when the cutaneous functions are most active. The drinking of hot fluids, which increases glandular secretions, will in a measure explain the appearance of the eruptions by increasing the effect of certain drugs, by stimulating the cutaneous vascular system. Those suffering with various forms of nervous irritability of central and spinal origin, those who have suffered with constitutional diseases; and diathetic predispositions exert a marked influence in determining drug eruptions.

Calcium sulphide has, in a number of instances, produced an intense acneiform eruption when it was being administered in $\frac{1}{10}$ grain doses four times a day for its alterative effect. Ammonia muriate has also frequently produced an acneiform eruption when it has been necessary to continue its use for several weeks.

The balsams of copaiba and cubebs also cause an eruption in many cases after only a few doses have been given. We are familiar with its appearance, as it is a condition which frequently prevails. The eruptions from the bromides and iodides are so frequent that I merely mention the matter, although I recall a case that had been carefully examined by a number of eminent physicians, and the case diagnosed variola. His commitment had been made out for the poor hospital, but it was learned indirectly that the patient had been taking large doses of potassium iodide for a rheumatic condition, and the existing eruption was entirely attributable to the effect of the drug.

Artificial Lemon Juice.

According to the "*Pharm. Ztg.*" a lemon juice, very well adapted for soda and seltzer waters, possessing a pleasant taste and being very permanent, is to be obtained as follows:

Twenty-five fresh, medium-sized lemons are peeled thin, and the finely divided peel (about 420. grammes) is macerated for 24 hours with 1500. grammes of 90 per cent. spirits and 5000. grammes of water. Then add 10 drops of oil of lemon and 10 drops of oil of orange and slowly distill off 4000. grammes. A turbid liquid is obtained, which is put aside for eight days, shaking frequently; then filter. The filtrate is then usually clear, and yields clear mixtures with equal parts of water and simple syrup; should this not result, gradually add alcohol until a clear liquid is obtained, small samples of which yield clear mixtures with equal parts of water and simple syrup. Then dissolve in the liquid 0.1 gramme of vanillin and color with about 60 drops of tincture curcum. and 60 drops of tincture sacch. tost.

The following process is more rapid: Twenty-five medium-sized lemons and one orange are peeled thin and the finely-divided peel macerated for six hours with 1500. grammes of 96 per cent. spirits; filter without pressing, dilute the filtrate with 1500. grammes of water and put aside for about eight days, shaking frequently. After filtration, we obtain usually a clear liquid, dissolving therein 0.1 gramme of vanillin.

If the filtrate, however, should not prove clear, add spirits in small portions until the liquid has become clear, and until a small sample yields a clear mixture with equal parts of water and simple syrup. This formula is, of course, less detailed than the preceding one, but the distilled essence is considered more fragrant than that prepared according to the second formula.

For the preparation of the juice, dissolve 8. grammes of citric acid and add 4. grammes of the above essence and 1000. grammes of white syrup.—*Zeitschr. des Oesterr. Apotheker-Vereins*, p. 410, August 10th, 1890.

Pharmaceutical Progress.

ANÆSTHESIN is the new introduction by the manufacturers of antipyrin. The name has been registered as a trade-mark in Germany, and all preliminaries are no doubt being rapidly advanced to similarly secure exclusive rights in the United States, and to precipitate the new anæsthetic into medical and pharmaceutical channels.

SPERMINE.—Certain crystals found in the sperma, are, according to Schreider, the phosphate of an organic base, spermine, which according to Ladenberg and Abel, is identicle with *ethylenimine.* M. Pohl extracted the spermine from the testicles of young rabbits and has tested it. He affirms that it abates the action of the heart, augments its energy and stimulates the nervous genital systems. He thinks that the action of castoreum and of musk is due to the presence of spermine.—*Le Mercedi Medical*, p. 422. August 27th, 1890.

OLEUM CHÆNOCETI, an oil obtained from one of the whale tribe—*Balæna rostrata*—is stated by Dr. Gustav Guldberg to have a specific gravity lower than that of any other animal oil, and also to possess marked penetrative properties. A mixture of equal parts of the oil with chloroform penetrates the skin rapidly and acts upon the nerve terminations very efficiently, thus offering a good application in all forms of pruritus, neuralgia, etc. The oil is 40 per cent. cheaper than olive oil, and at present is only procurable in Christiana. The crude oil should not be employed as its smell is abominable.

TOOTHACHE DROPS.—

Chlorotorm....................	1 oz.
Oil of cloves....................	2 drachms.
Oil of peppermint.............	½ drachm.
Oil of spearmint...............	2 drops.
Oil of sandalwood.............	15 drops.
Oil of cajeput.......	4 drops.
Tincture of cassia.............	1½ oz.

Mix these and add to 1 oz. of a tincture containing 20 grains of catechu in 1 oz. of absolute alcohol.

This formula is based on the composition of a celebrated Continental remedy.

A NEW METHOD OF PRODUCING LOCAL ANÆSTHESIA.—Dr. Voituriez, recommends in the *Moniteur Therapeutique*, a method of producing local anæsthesia which certainly possesses the merit of simplicity. It is based upon the "well-known anæsthetic properties of carbonic oxide," and consists in pouring on the place to be anæsthetized the contents of two or three bottles of seltzer water, preferably by means of the syphon, which releases the water in a strong stream. The anæsthesia lasts five minutes and then gradually disappears. It is difficult to see how the "well-known anæsthetic properties" of the oxide are exerted by external application. The effect, if any, is probably mechanical.

How to Make the Strongest Cement.—Prof Alex. Winchell is credited with the invention of a cement that will stick to anything. Take two ounces of clear gum arabic, one and one-half ounces of fine starch, and one-half ounce of white sugar. Pulverize the gum arabic and dissolve it in as much water as the laundress would use for the quantity of starch indicated. Dissolve the starch and sugar in the gum solution. Then cook the mixture in a vessel suspended in boiling water until the starch becomes clear.

The cement should be as thick as tar, and should be kept so. It can be kept from spoiling by dropping in a lump of gum camphor, or a little oil of cloves or sassafras. This cement is very strong indeed, and will stick perfectly to glazed surfaces, and is good to repair broken rocks, minerals, or fossils. The addition of a small amount of aluminum will increase the effectiveness of the paste, besides helping to prevent decomposition.—*Jewelers' Weekly.*

Toxic Action of Salol.—In the numbers of the *London Practitioner* for July and August, 1890, is a very interesting and able paper by Dr. Hesselbach, of Halle, in which this author considers the action of salol upon the kidneys in relation to its effects when given in poisonous doses, and he has also recorded a case of a young man who took by mistake two drachms of salol, thereby producing death.

His conclusions, after quite a prolonged physiological and toxicological study, are as follows:

1. The large proportion of phenol contained in salol renders it so toxic a substance that its unrestricted therapeutic use is fraught with danger.
2. In renal disease, acute or chronic, salol is contra-indicated.

It should be remembered when we administer salol that, with every one hundred grains of the drug given we give no less than forty grains of carbolic acid, so if this amount is used during the day an extremly large dose of a very lethal and irritating agent is ingested.

A New Cure for Cholera.—" M. Paul Balma, of Cette," says the London *Daily News,* " is confident he has found a specific against cholera. Everybody, it appears, should sit for so many hours in a shirt saturated with paraffin ! By such means those who are attacked by cholera will be cured; and as for those who are sound, why prevention we all know, is better than cure. Nor does M. Balma preach what he does not practice, for he has actually experimented upon himself with the happiest results. He admits that his specific has its drawbacks. The contact of the oil with the skin produces intense irritation, which he is ready to account for on scientific principles. The manifestation is due, it appears, to certain microbes who object to being dispossessed, and who maintain what French writers call a struggle-for-life. The governments of England, France and Spain have been made acquainted with M. Balma's discovery, but up to the present Lord Salisbury alone has condescended to acknowledge receipt of the intimation. The Foreign Secretary did not commit himself, however, so far as to approve of M. Balma's suggestion that the wearing of the paraffin shirt should be made compulsory on the Arabs among whom the cholera is raging in Mecca."

A Note on Eucalyptus Oil.—Having lately had occasion to examine a number of samples of Eucalyptus Oil, ordered and invoiced as *Amygdalina,* and the variations being more marked than in probably any other essential oil used in pharmacy, the results seem to be of sufficient interest to be placed on record.

The tests applied were: (1) Specific gravity; (2) Rotation, shown by a Zeiss polarimeter; (3) " Phellandren " test,* the presence of which is understood to distinguish the *Amygdalina* oil from that obtained from *E. Globulus.*

	Sp. Gr.	Rotation.	" Phellandren."
A..	.912	+ 12°	None.
B.	.909	+ 12°	"
C...	.874	— 28°	Strong reaction.
D	.889	— 24°	" "
E	.897	— 30°	" "
F.	.893	— 30°	" "
G.	.897	— 120°	Very strong reaction.
H	.874	— 111°	" "
I	.909	— 5°	None.

Subjoined are also the figures for some oils invoiced as *Globulus:*

	Sp. Gr.	Rotation.	" Pheilandren."
Californian.	.909	+17	None.
Schimmel	.915	+ 7	"
Merek.	.904	+11	"
Gehe.	.921	+ 4	"

The following general inferences may be drawn:

A aud B are obviously *Globulus,* and show that two of the largest London houses, ignorantly or intentionally, are supplying this for *Amygdalina.*

D, D, E, and F, are normal *Amygdalina* oils.

G and H are a variety of *Amygdalina* oil, of which we have as yet seen no description. It is characterized by an abnormally high rotation, so high that the Zeiss instrument was incapable of measuring the angle till the oil was diluted with absolute alcohol. The phellandren reaction was also very strongly marked. One of the oils (G) was very dark yellow, and the other (H) quite colorless, but their other characters are so much alike that it is probable H is G redistilled.

I is an intermediate between the *Amygdalina* and *Globulus,* and is probably distilled from mixed leaves. It was obtained directly from the firm who were the first to accentuate the radical difference between the two varieties.—P. W. Squire in *Chemist and Druggist.*

---

* Dissolve a few c. c. of the oil in twice its volume of glacial acetic acid, and add a saturated solution of sodium nitrite. The oil separates, generally assuming a green color, and, in the case of an *Amygdalina* oil, quickly sets to a semi-solid mass of Phellandren nitrite, which afterwards became brown. The *Globulus* oil shows no solidification, and the green color is more permanent.

Notes and News.

A COSTLY THERMOMETER.—The most expensive thermometer in this country is in use at the Johns Hopkins University. It is known as Prof. Rowland's thermometer, and is valued at $10,000. It is an absolutely perfect instrument, and the graduations on the glass are so fine that it is necessary to use a microscope to read them.

A SUBSTITUTE FOR TOBACCO—It seems that the leaves of the *Duboisia Hopwoodii*, a shrub growing in Australia, contains an alkaloid—*piturine*—the physiological effects of which are said to be identical with those of nicotine. It is accordingly chewed by the natives, and is said to give rise to the same delectable sensations that have made tobacco a luxury of world-wide use.

A HARD WORKING TRAMP.—"Why don't you go to work?" she asked of the tramp.

"I am a-working, lady."

"At what? You show no signs of it."

"No matter for that, mum. I'm a-working as a travelling advertisement for a soap firm. I'm the 'Before Using' card, and my partner around the corner represents the 'After Using' end of the combination. Thank you, mum."—*Philadelphia News.*

CO-OPERATIVE PHARMACY.—The editor of the *Formulary and Druggists Magazine*, in Sept., 1890, number says:

We see in Co-operative Pharmacy the correction of many of the wrongs, abuses and impositions that have been forced upon retail druggists, and a relief from the oppressions of monopolies. We see a bountiful harvest of profit for those who unite under the banner of Co-operative Pharmacy, where now the most assiduous toil only brings them a bare return.

REED & CARNRICK'S FACTORY BURNED.—Reed & Carnrick's factory near Goshen, N. Y., was destroyed by fire Wednesday night, September 10th. The fire, the cause of which is unknown, originated in an adjoining building, part of which was used by the firm. The loss is estimated at about $75,000, principally on machinery. The insurance is $22.750. As they have a smaller set of machinery which was stored elsewhere, they expect to be in running order again in a few days. There will be no inconvenience caused to customers.

MATRIMONIO SECRETO—A QUESTIONABLE SPECIALTY—It has remained for a German firm to outdo in pruriency and vileness the advertising of American quacks and nostrum venders. This concern advertises openly a preparation called "Matrimonio Secreto," a "Ladies' Soap, whose searching and effective antiseptic and parasiticide effects will in every case prevent conception." The advertisement needs only the indorsement of a few parsons and "sisters" to make it first-class material for the advertising columns of the religious journals. These, no doubt, will be given, however, when the soap gets to this country.—*National Druggist.*

THE ORIGIN OF DRUGGISTS' SHOW GLOBES.—The origin of the show globes displayed by druggists is among the less important but more interesting of the mooted points in ancient pharmacy. A writer in the *British and Colonial Druggist* says: "The carboys themselves are perhaps the survival of the retorts and receivers of the ancient alchemist. Some are still to be seen, in fact, bearing mystic characters which would seem to suggest this idea. It would be difficult to trace the process of evolution, but the colored waters may bear some remote relation to the mystic solution of that period. Colored carboys, like the colored glass in lamps, may, of course, be held to be in some degree useful in providing a ready means for 'spotting' a chemist's shop in an emergency."

THE DOSE OF PEPSIN.—Dr. Eccles, who has devoted much time and study to the subject of pepsin, says the dose, even of the best grades of the so-called pure article, could safely, and should, be largely increased. He says:

> Half a grain of the very best in the market can only complete the digestion of one hundred grains of albumen or fibrin in six hours. To digest a pound of beefsteak at this rate would require over two and a-half drachms. For various reasons that cannot be discussed here, less than this would really do the work in the stomach, but not enough less to seriously invalidate the reasoning. From fifteen grains to a half-drachm should, however, be the minimum dose for an adult.

—*Druggists' Circular.*

JUSTIFIABLE EJECTMENTS.—A case was concluded in Detroit before Judge Brevoort recently, which involves a principle of law of universal interest and importance, and interests pharmacists. The facts in the case are very few and simple. M. D. Breitenbach, the lawyer, went with a client to the office of Frank G. Trowbridge, on Gratiot avenue, four years ago, to make a tender of money on a land contract. Mr. Trowbridge forcibly ejected Mr. Breitenbach, and the latter commenced suit, the case being tried three years ago, resulting in a verdict of $300 for Breitenbach. This was set aside, however, by the Supreme Court, and an opinion was handed down which settled several important questions concerning the right of a man in his own place of business. It was held that a man has a right to go into another man's place of business in a respectful way, but if ordered to leave he must do so. If he does not leave when ordered, then sufficient force may be used to eject him to meet any resistance offered. The Court says:

> A person's private office or place of business, though open to the public, cannot be made, against his will, free to all who enter and remain upon proper business, like a hotel, public office, railroad car or depot. He can admit or reject whom he pleases. It is his own private business, and the public have no rights there against his wishes.

Judge Brevoort charged the jury according to the line of the Supreme Court decision, and the jury returned a verdict for defendant of "No cause of action."

DRUGGISTS' BULLETIN

A MONTHLY EXPONENT OF

PHARMACEUTICAL PROGRESS AND NEWS.

VOL. IV. No. 11. DETROIT, MICH., NOVEMBER, 1890. {$1.00 a year. Single copies, 10 cents.

THE DRUGGISTS' BULLETIN

ISSUED MONTHLY.

EDITOR:

B. W. PALMER, A. M., M. D.

COLLABORATORS:

PRACTICAL PHARMACY.

J. LE ROY WEBBER, Ph. G., LEON C. FINK

CHEMISTRY.

F. A. THOMPSON, Ph. C., J. B. NAGELVOORT, Ph. G.

BOTANY AND MATERIA MEDICA.

H. H. RUSBY, M. D., G. SUTTIE, Ph. C.

PHARMACEUTICAL APPARATUS AND INVENTIONS

J. B RUSSELL, Ph. G.

GEO. S. DAVIS, Publisher,

P. O. Box 470, DETROIT, MICH.

Articles designed for insertion in THE BULLETIN, subscriptions, advertisements, and all communications should be addressed to the publisher.

Editorial.

A SCHOOL OF PHARMACY AT DETROIT.

At no time in the history of pharmacy has the subject of pharmaceutical education received more attention than in the last decade. The result of this active discussion has led to the very general acceptance of the necessity for establishing in all states more rigid educational standards.

A review of the opinions of the home and foreign pharmaceutical press, which reflect the sentiments of the better elements of the pharmaceutical profession, clearly indicates that the trend of current opinion is emphatically in favor of more thorough pharmaceutical education, both theoretical and practical, and of exacting from prospective students of pharmacy, sufficient general knowledge and education to fit them for the intelligent acquirement of this art.

It is therefore gratifying to learn that there has been established in Detroit, which has so many advantages as a Western centre for pharmaceutical education, a Department of Pharmacy in the Detroit College of Medicine.

We are informed that this newly organized school of pharmacy, is thoroughly equipped for teaching theoretically and practically, the theory, science and art of pharmaceutical practice.

The laboratories and lecture room have been furnished with the most approved accessories for practical pharmaceutical operations, and thorough instruction will be given in the following branches: General Chemistry, Pharmaceutical Chemistry, Theoretical Pharmacy, Practical Pharmacy, Materia Medica, Botany, Pharmacal Jurisprudence and Ethics, and Analytical Chemistry.

The faculty embraces men whose intimate and thorough knowledge of the requirements essential to the successful practice of this profession in accordance with the highest modern standards, will enable them to impart its principles and practice by such methods as shall make Detroit the most popular centre of practical teaching in the West: They are as follows:

Theo. A. McGraw, M. D., Dean of Faculty.

J. E. Clark, M. D., Professor of General Chemistry.

J. LeRoy Webber, Ph. G., Professor of Pharmaceutical Chemistry.

Justin W. McEachren, Ph. C., Professor of Theoretical Pharmacy.

Leon C. Fink, Professor of Practical Pharmacy.

George Suttie, Ph. C., Professor of Materia Medica and Botany.

E. C. Skinner, M. D., Professor of Pharmacal Jurisprudence.

ASSISTANTS.

Chemistry—Geo. E. Clark, M. D.
Pharmacy—H. L. Barie, Ph. C.
Materia Medica and Botany—D. A. Suttie.

The first session of the Department of Pharmacy of the Detroit College of Medicine will begin on the evening of Monday, January 5th, 1891, at 8 o'clock, in the College building, corner of St. Antoine and Mullett streets.

Students will be required to register at the Secretary's office, on or before Saturday, January 3d, 1891, and for further particulars, announcement, terms, etc., should write the Secretary, E. C. Skinner, M. D., St. Antoine and Mullett Sts., Detroit.

PUBLISHER'S ANNOUNCEMENT FOR 1891.

Beginning with the January, 1891, number of the Druggists' Bulletin, it is proposed to so improve its form and to increase its extent as regards reading contents as to make it the largest, handsomest, most readable and helpful pharmaceutical periodical published in the world.

It will be, considering the extent, variety and character of its contents, absolutely the cheapest journal of its class ever issued, for, with all the additions which will be made to it, the subscription price will remain the same. It also offers to subscribers who subscribe for 1891 a choice of the three following special inducements:

First. To subscribers who send in their cash order for 1891 to the Druggists' Bulletin and *Cosmopolitan* before January 1st, both journals will be sent at the special price of $2.40. This is the regular price of the *Cosmopolitan* alone.

The *Cosmopolitan* is regarded by good judges as the best of the monthly magazines and furnishes by its interesting and instructive articles and unsurpassed illustrations, a magazine that is not only entertaining but educational in the great variety of information its text and apt illustrations afford. We can heartily recommend it to the readers of the Bulletin, and take pleasure in being able to make the special price for it, combined with the Bulletin, which we now announce.

The *New York Times* calls it: "At its price, the brightest, most varied and best edited of the magazines."

This will afford every paid up subscriber to the Druggists' Bulletin an exceptional opportunity of providing himself with the most progressive and helpful pharmaceutical journal, and a monthly popular magazine unexcelled in attractiveness of literary contents and illustrations, at the price of one.

Second. To subscribers in arrears sending in their renewal subscription for 1891, with remittance for 1891, and amount due to that date, we offer as a premium any number of the Physicians' Leisure Library Series, comprising monographs on prevalent diseases by the most eminent authors. Announcement of this Library mailed on request.

Third. To every subscriber who pays up all arrearages, the Druggists' Bulletin for 1891 and a copy of "Tables for Doctor and Druggist," by Professor Eli. H. Long, will be sent post-paid, on receipt of $2.00. This is the regular price of the book alone, and every subscriber who takes advantage of this offer virtually receives the Druggists' Bulletin gratuitously for the year 1891. See announcement of Professor Long's valuable book of reference in this issue.

CONSERVATISM VERSUS PHARMACEUTICAL PROGRESS.

History has shown that there has ever been in the working out of all great reforms an element which clings to the old and condemns the new. It is only by actively opposing this conservatism that all progress asserts itself.

As illustrative of this, we may mention the recent cases alluded to in our October issue of the arrest of certain druggists in New Jersey for making tincture of nux vomica by processes far in advance of Pharmacopœial ones.

The decisions in the suits brought against the druggists who have been made the innocent victims of this ill-advised persecution on account of their desire to supply a standard product more uniform in strength than that required by the Pharmacopœial process, should command for them the sympathy of all interested in developing and increasing the existing knowledge of making medicinal preparations.

It is gratifying to see that the injustice of the action of the officials in these cases is exposed by the pharmaceutical press, and by those whose intimate knowledge of the facts enables them to speak with no uncertain voice as to the tendency evinced in this persecution to set back the hands on the dial of time, and restrict desirable and legitimate advances in science and art.

From a communication by Dr. R. G. Eccles, published in the *Druggists' Circular* for November, 1890, relating to this abuse of the Pharmacopœia, this competent authority, who has done so much to rid pharmacy of some of its encumbrances to progress, we quote the following sentiments:

> It never occurred to the last Committee of Revision that their efforts at improving the standard of drugs would be used in a court of justice to throttle progress and discountenance the very thing for which they aimed. Jersey justice is proverbial for its speed, but the sample of it lately meted out to two Atlantic City pharmacists says but little in favor of its quality. It has often been said that "the letter killeth, but the spirit giveth life." This is as true in secular as in sacred things, as we are forcibly reminded by an inspection of the process of ratiocination by which Justice Gouldey concluded that Messrs. Harry B. Leeds and A. D. Cuskaden were guilty of the crime of adulterating their tincture of nux vomica, because it did not contain the percentage of solid residue prescribed by the Pharmacopœia.
>
> The Dairy Commissioner of the State of New Jersey is empowered by law to prosecute all druggists found selling adulterated goods. The United States Pharmacopœia is the standard of reference in all articles it describes. By an involution of technicalities constructed upon its text, the two gentlemen named were fined fifty dollars each because they did not adulterate their tincture of nux vomica. Had they done so this Justice would never have been troubled with their cases. Just think of this preposterous fact. Two druggists, innocent of any wrong, are hauled into court and fined for doing a thing they did not do, and which if they had done would have saved them from the disgrace and damage to their business which a stupid rendering of the law brought upon them.

Every honest and careful pharmacist in the United

States seeks to obey the Pharmacopœia to the letter, unless it can be shown conclusively that a better process or a superior product calculated to answer the requirements of medical men more effectually, can be had by deviation therefrom. Then they do not and ought not to hesitate in departing from its strictures. The attempt to hold them to its text when unquestionable improvement is possible, is an attempt in the name of justice to strangle justice. Because the Pharmacopœia is accepted as the proper standard of reference concerning the strength and quality of drugs, it by no means follows that it should become the tool of petty tyrants nor the arrester of improvement.

We have more than one example of how baneful a step it would be to have the law interpreted too strictly by the letter.

Within the past decade pepsin manufacturers have so far outstripped the requirements of the Pharmacopœia that all well posted druggists would feel like criminals should they adhere to its antiquated text. At the time it was written it marked the limit of our knowledge of the subject. The Dairy Commissioner's chemists can get their hands full by prosecuting every man who supplies a saccharated pepsin capable of digesting more than 50 parts of albumen in six hours.

Let them order hyoscyamine sulphate and only in stores whose shelves are laden with goods that have lain there for a decade or more, can they secure an article answering to the requirements of the Pharmacopœia. Every wide awake druggist now possesses a pure article of this salt, while the text calls for a mixture of hyoscine and hyoscyamine sulphates by the name of the latter only. It is doubtful whether the official goods could now be bought of any wholesale house. Why not be consistent and fine every man who fails to supply the obsolete article?

Let them next prescribe apomorphine hydrochlorate, and I defy the patient to get the article described in any drug store in the world. In taste and solvent power it will differ totally from that described.

According to New Jersey law as lately defined, no pharmacist can avoid becoming a criminal, try as he will. The selling of goods superior to those called for by the Pharmacopœia makes them liable to heavy fines, and yet the progress of ten years has been so great that the goods New Jersey law insists upon the druggists having, can, in some instances, no longer be bought.

If Messrs. Leeds and Cuskaden deserve to be punished because they dispensed a tincture of nux vomica containing a definite and known amount of active alkaloids, instead of one of uncertain strength, then, surely, those druggists should also be punished who dispense the present definite salt of hyoscyamine instead of the old indefinite one. If the letter of the Pharmacopœia must alone be considered, why has not every pharmacist in the State been fined fifty dollars for failing to dispense a syrup containing the proper quantity of sugar, and yet having the called for specific gravity? To introduce variety into the affair, they might also all be called to answer for the grave crime of selling iodoform that does not dissolve in alcohol or water in the proportions named. If the eyes of the officials are open, they can often catch pharmacists dispensing a soluble citrate of iron and quinine, when the official article is non-soluble.

Messrs. Leeds and Cuskaden are evidently men who are unusually conscientious as to the quality of the goods they supply their patrons, or they never would have gone to the extra expense of buying a special preparation from which to make their tincture. They could have made a tincture containing 2 per cent. of extract while using the cheapest and poorest goods the market affords, and the Dairy Commissioner and his chemists would have pronounced them good, honest pharmacists. They could have adulterated the tincture made from the preparation purchased, by adding glucose or other inert material, and these same men would have commended them as above reproach.

When the Pharmacopœia of 1880 was compiled, the sub-Committee having tinctures in charge, adopted standardization of the extractive of nux vomica, because it was a first step toward that uniformity which assay of the alkaloids was hoped in time to bring about. This was the universal understanding after the volume was published. The Committee did not wish to move faster than the average pharmacist could follow. Instead of seeking to discourage further steps being taken along the route to progress, they aimed at holding out all possible encouragement for everyone to move along that line. With commendable zeal our principal manufacturers have sought to bring about the same much desired consummation as speedily as possibly. With this aim in view Messrs. Parke, Davis & Co., put upon the market the article which Messrs. Leeds and Cuskaden used. It contains the per cent. of alkaloids which the accumulated experiences of the principal scientific observers of Europe and America have decided to be the best.

The perfection of progress is the approaching to this ideal. Before any standard had been adopted for nux vomica, the range of strength was discouragingly great. Some samples were found to be more than twenty times stronger than others, and there were some of all degrees between. Among those in which the two per cent. extractive plan of assay was adopted, the range of difference in strength has been narrowed down to one in four or five. Two different samples of the tincture made and assayed according to the present process may have a teaspoonful of one possess the strength of about five teaspoonsful, of others. This, of course, is due to the quality of material used in making.

Are men to be punished by our laws because they seek to have a teaspoonful of tincture of nux vomica always equal to a teaspoonful of the same, no matter where or when procured? Common sense objects to any such proceeding. It is all right to force men by the law to give as good an article as the Pharmacopœia calls for, but it is preposterous to punish them for supplying a better, safer, and in every way more desirable one.

This clear statement is supported by the following stirring editorial in the *Medical News* of Philadelphia, a journal representative of intelligent medical opinion in the East:

AN UNJUST PROSECUTION.

The readers of the daily papers in and about Philadelphia who are at all interested in medicine or pharmacy, noticed several weeks ago that two of the leading druggists of Atlantic City had been arrested and charged with the misdemeanor of selling adulterated drugs.

A complete explanation of the arrest lies in the fact that the State of New Jersey some time ago adopted the United States Pharmacopœia as its standard of drugs. This action is laudable so far as it goes, and we think it would be fortunate if the remaining States of the Union would stamp officially the product of the Committee of the Revision of the Pharmacopœia with their approval. That an act done with the best intentions may, however, result in legal absurdities, is represented by the case before us. The druggists, who were fined fifty dollars each, were in the habit of preparing their tincture of nux vomica from the so-called normal liquid of Parke, Davis & Co., which is an assayed fluid, the strength of which is governed not by the quantity of solid extract, as is directed in the Pharmacopœia, but by the amount of active principle or alkaloid which the drug contains.

The Dairy Commissioner of New Jersey, having obtained samples of nux vomica, had it analyzed according to the directions given in the last Pharmacopœia, with the natural result that the extract was not present in proper quantity; and, upon the chemist's testimony, the Justice before whom the druggists were taken, at once administered punishment. That this punishment was unjust, is, of course, at once evident to anyone who is familiar with the subject; and we would call attention to the fact that the authorities of the State of New Jersey could practically prosecute almost every druggist in that Commonwealth for some similar breach of the letter of the law.

The advances which medicine and pharmacy have made in the last ten years practically prohibit the use of many impure substances, which, owing to our lack of knowledge in 1880, seemed as pure as possible. Chief among these may be named saccharated pepsin, which everyone now knows is practically useless as compared to the pure pepsins which are manufactured by the leading firms in this country.

The ludicrous condition of affairs exists that for once honesty was not the best policy; for if the druggists who suffered had dispensed the officinal tincture of nux vomica, the patients receiving the medicine would have received a more impure preparation than if the law had not been obeyed.

We earnestly hope that Governor Abbett will use his influence to have the present law either repealed, or so amended that similar travesties on justice may not occur.

The editor of the *Druggists' Circular* also makes these cases the subject of the following terse comment.

DANGER IN THE U. S. P.

The old saying that the unexpected is sure to happen is more than confirmed by the recent arrest and conviction of two druggists of high standing in New Jersey, full particulars of which are given in another column.

That so absurd a proceeding should happen in this enlightened age seems hard to realize; and it was not because their tincture of nux vomica was deficient in purity or strength, that these two druggists have to suffer—but simply because it could not stand an antiquated and now ridiculous test of the U. S. P.

If honest and hard working druggists are to be annoyed and punished in this way, it becomes of the greatest importance that the next revision be made very much more accurate and complete, and that subsequent revisions be made at much shorter periods. Five years now, when the rapidity of improvements in pharmacy and chemistry are considered, is fully as long as ten years was fifty years ago. Gentlemen of the Committee, revise your Pharmacopœia every five years and be sure you get it right.

Many individual pharmacists and physicians of eminence have added their testimony to that already adduced in confirmation of these reviews.

It is believed, then, that if such action as that for which these druggists have been injured is endorsed by the officials before whom it goes for adjustment, a decision against these druggists would add another to the cases in which legalized justice stultifies itself, and the equity of the question at issue is ignored.

THE NECESSITY OF TESTING PHARMACEUTICALS.

> "Things are seldom what they seem;
> Skimmed milk's often passed for cream."

If we may apply a familiar quotation from Gilbert & Sullivan's Pinafore to drug purchases, we might with justice say that drugs are seldom what they seem.

From the thirteenth annual report of the Board of Health of the State of New York, we learn that false weights in pharmaceuticals, and false formulas, are realities, not myths, and that the lesson brought by these facts to pharmacists is that every product bought should be tested.

In the report quoted, Professor G. C. Caldwell, the Public Analyst, states that on the examination of 275 samples of alkaloidal preparations made by various manufacturers, sold by various dealers, and purchased at different times in different localities, he found 177 good, 13 passable, and 85 deficient.

A review of the tables of Prof. Caldwell gives some interesting information. For instance, in 15 samples of sulphate of quinine, foreign alkaloids were found in excess in 9 specimens, and this excess is found in a manufacturer's quinine that in other specimens shows an absence of any foreign alkaloids. Of 42 samples of capsules of quinine, 22 exhibited a deficiency of quinine varying from $\frac{1}{200}$ to $\frac{4}{5}$ of a grain in each capsule; in 20 samples there was an excess varying from $\frac{1}{50}$ to $\frac{1}{8}$ of a grain in each capsule. In 98 samples of quinine pills, 71 exhibited a deficiency of from $\frac{1}{200}$ to $\frac{1}{2}$ a grain, and in 27 specimens there was an excess, attaining $\frac{1}{10}$ of a grain. Here, again, we find the pills of the same manufacturer showing a deficiency as great as $\frac{1}{5}$ of a grain and an excess as high as $\frac{1}{25}$; with the products of one firm an excess was found three times and a deficiency twenty times, and, while the amount is insignificant in each pill, it makes considerable difference in the total quantity of quinine in, say, a hundred pills. So with pills of sulphate of morphine, a deficiency was found twenty nine times and an excess five times, the former varying from $\frac{1}{200}$ to $\frac{1}{10}$ of a grain, while the excess was inappreciable. All hypodermic tablets of morphine were short from $\frac{1}{100}$ to $\frac{1}{14}$ of a grain.

These average variations were found in the products of well known manufacturers as well as in those of local pharmaceutists; and it is not unreasonable to question the care with which manufacturing processes are conducted, as well as the indifference to any examination of either the alkaloids used in the manufacture, or the product after being manufactured, if such wide ranges of variations in the dosage of preparations from the same manufacturer can be found.

Certainly, no stronger argument could be offered than the facts of such a report, to incite pharmacists to specify, in ordering pharmaceuticals, those which they have found by proper test to be as represented. Such assurance on the part of a druggist to his medical and public patrons, would secure him a profitable return for the investment of time and work required, and would do much to discourage adulteration, substitution, and disingenuous manipulations of all kinds.

WHAT PREPARATIONS SHOULD BE INCLUDED IN A PHARMACOPŒIA.

This most interesting question was discussed at some length before the Pharmacological Section of the recent International Congress at Berlin.

This discussion was reported at length by the foreign pharmaceutical press, and a *resumè* of the opinions expressed would indicate a great variety of sentiment and practice as to the compilation of pharmacopœias.

From an analysis of the facts elicited, published in the *Pharmaceutical Journal and Transactions* we gather the following summary of the views presented.

"The discussion was introduced by the reading of two lengthy reports, one by Dr. Langgaard and the other by Dr. B. Hirsch, whose well-known work in comparing the existing pharmacopœias must have qualified him in a special manner to discuss the question. The reports touched upon too many subjects to be dealt with exhaustively in a single notice, and on the present occasion reference will be made only to some opinions expressed as to the conditions that affect the selection of certain articles for administration into a Pharmacopœia and the rejection of others.

"Dr. Langgaard commenced by saying that the idea of an International Pharmacopœia that should be the authorized medicine book in every country has probably in the present day only a few adherents, and he expressed the opinion that to most persons it would appear as impossible to carry out so as to make an International statute book. At the same time he thought the interchange of opinion in a meeting like the Congress upon certain points that were always of primary importance in the construction of a pharmacopœia would not be useless. Among these points of primary importance were the questions as to what remedies should be contained in a pharmacopœia and what principles should guide the selection of the remedies that are included in it. With respect to the first question, at present two different principles seem to be adopted; according to the one even rare and seldom used remedies are included, as in the case of the French Codex, whilst according to the other, which has been increasingly followed in the more recent pharmacopœias, every effort is made to limit the items to remedies that are indispensible and valuable.

"Some statistics quoted by Dr. Hirsch illustrate this in a very interesting manner. In some twenty existing pharmacopœias, all of which are European, except those belonging to the United States and Japan, there are about 17,000 items, which after making a reduction for the entries that are identical or similar in the different works may be stated in round numbers at 4000. Of these the French Codex, heading the list, includes 2039. Then follow, giving round numbers, the pharmacopœias of Spain with 1600; Belgium with 1300; Russia with nearly 1200; Switzerland and the United States each with more than 1000; Greece with nearly 1000; whilst Great Britain, Sweden, Holland and Denmark diminish from 900 to 700, and the others fall still lower. The European pharmacopœia containing the smallest number of items is the Norwegian, which numbers 519, whilst that of the Japanese only contains 470.

"But even when there is a consensus of opinion that only the more important remedies shall be included, divergencies are sure to occur in the different pharmacopœias, owing to the impossibility of securing unanimity as to what articles are to be considered entitled to rank as such. An instructive illustration of this may be found in a comparison of the list of articles newly introduced into the German Pharmacopœia with that which has been recently published as probably representing the forthcoming Addendum to the British Pharmacopœia. The proposed additions to the British volume are said to have 'received the general approval of the medical profession,' whilst it is claimed that in the German work no superfluous or apparently worthless substance has been admitted by the Commission. In the former case 37 articles have been selected out of 140 suggested, in the latter about 60 out of 1240. But of these selections only eight have been made for both works. Without taking upon himself to say whether the selection for the British Addendum corresponds to the requirements of British medical men, Dr. Langgaard believes he is able to say that it would not satisfy the physicians of Germany. However this may be, he is of opinion that wherever the selection of the remedies to be included in a pharmacopœia falls into the hands of a few members of a committee, there is danger of valuable and much used substances being excluded on the authority of individuals who may not had much opportunity of using them, and on the other hand an equal risk of little used remedies being selected."

Original Articles.

PRACTICAL PHARMACY.

SOME THERAPEUTIC NOTES OF INTEREST TO PHARMACISTS.

BY H. M. WHELPLEY, M. D., PH. G.

And now the gonococci are to be stained to death with methyl violet. This is the remedy that Dr. Kaune uses for gonorrhœa. He uses a one to one thousand solution once a day, and cures a patient after three injections. The commercial methyl violet contains arsenic, and must not be used; but there is a German preparation sold under the name of pyoctanin, which is free from phenol and arsenic.

Chapped hands are difficult to treat on account of the trouble in removing the cause. As a rule, a patient expects his hands to be rendered as durable as tin, so that the skin will not chap. The following mixture will not do this, but, according to the *Times and Register*, it is more serviceable than those usually employed:

℞ Menthol	12 grains.
Salol	30 grains.
Olive oil	30 minims.
Lanolin	12 drachms.

At any rate, it is a new mixture of new remedies.

The disinfection of dwelling houses where cases of infectious diseases have occurred is quite a common procedure, especially in the cities, and any one who has had any experience in such work knows how anxious the average family is to "straighten things up" and reoccupy a room. Therefore, the following advice from the Minn. Board of Health is timely:

Mind one important point, especially as respects diphtheria. After disinfecting a room, or house, see that no *moist*, damp places remains. Have *floor*, *walls*, *closets*, every bit of wood work, *thoroughly dry*, before occupation of the room again, and put off such occupation by children as long as possible.

To prevent bed-sores, Dr. Forbes recommends washing the parts with the following mixture:

℞ Chloride of sodium	4 drachms.
Alum	4 drachms.
Water	8 fluidounces.
Alcohol	2 fluidounces.

Mix.

Those minor but troublesome irritations of the skin, such as chapping, insect bites, etc., are now to be treated with cocaine. The *British Medical Journal* proposes the use of cocaine pencils. These are cocoa butter with two per cent. of the alkaloid. Of course, such an application is superior to the use of the solution, as the cocoa butter will act as a protection.

Scabies is now being treated with phenolized oil, which is employed as a local application. The oil is one part of phenol to fifteen of olive oil.

To straighten up after a debauch, Dr. Brinton recommends the following dose:

℞ Spirit. ammon. aromatic	3 fluidrachms.
Tinct. capsici	1 fluidrachm.
Tinct. lavendul	4 fluidrachms.
Sod. mint	2 fluidounces.
Tinct. opii camphor	90 minims.

Misce.

A tight collar may be a necessity to the modern dude, but it is not conducive to good eyesight. The effect of the stricture on the circulation of the blood injures the eyesight, as has been demonstrated by experiments.

Moles have many sure cures, but somehow they continue to annoy those who consider themselves disfigured by them. The latest cure is painting the mole with the sodium ethylate, a fine glass rod being used. When the mole has a varnished look, the ethylate is gently rubbed in with the glass rod to make it penetrate more deeply. The mole turns nearly black, and a hard crust forms over it, which is nearly three weeks in becoming detached. When it comes off, the mole is much lighter than before, and this treatment can be continued until the mark is scarcely noticeable.

Odorous perspiration can be prevented, according to reports, if the offending parties are powdered with lint steeped in the following mixture:

℞ Amylum	2 ounces.
Bismuth subnitrat	4 drachms.
Potassii permanganat	3 drachms.
Talci	90 grains.

Misce.

Garden rhubarb may be food for the majority but is evidently poison for a few persons; it produces bloody urine and other kidney troubles, owing to the formation of oxalate of calcium. The drinking of hard water is favorable to the trouble. As the poisoning seems to be an idiosyncrasy with some individuals, it is well to watch children when eating this article of food and learn if it affects them. An examination of the urine will show the first symptoms.

The loss of the eyesight is one of the most deplorable afflictions that befall the human race. One of the sources of such troubles which midwives and many physicians overlook, is some womb or vaginal disorder. Recent statistics show that 71.99 per cent. of those who go blind during the first year of life have lost their sight through troubles which may be traced to local parental causes. Any womb or vaginal disorder should be, if possible, cured before the birth of the child.

The very mention of the word calomel in a prescription where it is associated with other chemicals causes the pharmacist to study and see if an incompatable mixture is not ordered. The fear of converting the comparatively harmless calomel into the deadly corrosive sublimate also agitates the minds of the physicians. Some of the French doctors are now putting forth the theory that the change takes place at the temperature of the human body after the chemical has been taken. If true, this may explain some "dispensing accidents." At any rate it is another straw for the unfortunate druggist to catch at.

Sweeter than Saccharin. Methyl-saccharin is the name given the new substance which is said to be sweeter than saccharin. It has the chemical formula, $C_6 H_3 CH_3 SO_2 CO. NH$. It is almost insoluble, but like saccharin is rendered more soluble by alkalies. The colorless crystals melt at 24° C. As far as we know the new substance is not a commercial article.

The charge made that saccharin is injurious to health, has not been sustained by experiment. It is now surmised that the sugar manufacturers started the report for the sake of injuring a new competitor.

White-wash destroys the microbes of cholera and typhoid fever, if recent experiments can be relied on. No other microbes were affected by the white-wash, so that it is not of general use as a germicide.

PHARMACISTS AS FOOD INSPECTORS.

BY L. MYERS CONNOR, PH. G.

This subject may seem, in a manner, foreign in relation to this body, yet upon closer investigation it will become manifest that it is practically inseparable.

The secular press, as well as scientific journals, are overflowing upon the subject of rigid food inspection. National, State, County, and City Bills are in contemplation everywhere; the next question arises, who will fill these many various positions in scientific and conscientious researches? In answer, I will say that the educated pharmacist must be chosen; this one stimulant alone should afford sufficient encouragement to the student, as it will give him both profit and pleasure, resting his mind from the many monotonous duties of a daily dispenser, and in many instances providing him with a revenue adequate for his maintenance.

It is a branch of chemical science that is fascinating, by reason of the variety of investigations to be pursued, by the favor it meets with public sentiment, and further by its revelation of cunning art and chemical curiosities, by hands of skillful manipulators, made so by years of experience and numberless experiments.

The agitation of this subject by statesmen throughout the land has certainly not escaped your notice, and, if so, you have only to refer to Congressional records to find that urgent measures are being taken, under titles of "Adulteration Acts."

It is a subject that is meeting with encouragement from every source, and the time is not far distant when every city in the universe, of 50,000 population, will be provided with proper laws suppressing the sophistication of food and drink.

A rich harvest can be reached if the student will provide himself with such works as "Hassell on Food Adulteration," and carefully peruse the same, as it is an elaboration of the subject and will naturally place his mind in that line of thought, and at the same time is not detracting from any other branch of like studies.

The people are becoming thoroughly aroused to the importance of such work, as the purity of nearly every article of food, such as is manufactured, is justly questioned.

It may be that, already, many of you have been called upon to determine the purity of the necessities of life, and possibly a few have found favor in such work; but, be it as it may, a position of such character will pay you far better than a reasonably well regulated shop, and I firmly believe that the demand will be made upon you to fill such positions in a very short space of time.

The laboratory requirements for this branch of work need not necessarily be expensive, as you are rarely ever called upon for quantitative estimations, but it is quite sufficient to determine without doubt that the matter under investigation has either had something added or subtracted.

A complete list of reagents must, at all times, be at hand, with the ordinary apparatus for evaporating, distilling, incinerating, drying, etc.

I have been engaged in this work for several years, and although my investigations have been limited, dairy products occupying the major portion of my time, yet I am very much infatuated with the labor.

The commercial standpoint is one of the chief causes that has increased the imperative demand for rigid inspection, as honest competition falls short of its mark when confronted by vile sophistications, which are multiplying with such rapidity that integrity of production finds no place of safety.

The next cause of complaint, and one that further enhances the demand for protection, is Sanitation.

The maculate mixer, void in some instances of the first principle of scientific learning, cheapens his material with poisonous colorings and flavors, in order to mask the true composition of his unwholesome stuff.

The city of Dallas, Texas, a place in the far West, of about 60,000 population, has duly commissioned me as City Chemist, and pays me liberally for my labor, and the fines arising from the convictions of violators of dairy products alone has, for the most part, balanced my yearly salary, aside from the protection of the people from contaminated products.

The office has grown in favor, and I candidly believe that if double the amount was necessary for conducting such inspection, our people would be unanimous in popular vote; and so from this single instance you may see that the pharmacist need no longer depend wholly upon close confinement of 16 to 18 hours' work, if he will properly qualify himself work in this direction, and after proper enactment of rigid laws governing such cases, a United Association of Inspectors would soon have the effect of restraining the introduction of adulterated food in every portion of the United States of America.

Some may say that a more practical or scientific paper is better suited to the demands of this organization, but I take it that a man is in great part measured by his money, means and morals, and honest competition in the retailing of drugs leaves small margins from which to provide gray hairs with the comforts of life; and each of us is striving to attain that lofty order of learning for the chief purpose of financial preservation.

The apothecary is no longer the one of olden times, with large profits of individual production, but at present he is compelled to purchase the preparations of manufacturers from nearly every letter in the alphabet, depriving him of his rightful profits, which are essential to success.

An important instrument came near escaping mention, and that is the microscope, which is absolutely required; and you should select a first-class instrument, and make careful comparative examinations of all substances, by selecting articles of known purity, and then adulterating with such matter as is generally used, in different degrees, making careful notes and drawings of the same; and with a proper text-book you will in a reasonable length of time be able to detect admixtures with no degree of uncertainty.

The information afforded by the use of the microscope cannot be secured by any other means, for, as some writer has said, there is more that we have not seen than that we have.

In conclusion, there may be no question but what pharmaceutical students should receive an obligatory course on food adulteration, as above stated. It will provide an additional source from which to obtain support, and will in no wise impede, but further, the advancement of collateral branches.

DALLAS, TEXAS, August, 1890.

CHEMISTRY.

TEREBENE.*

Query 61. *What are the medicinal properties and what is the purity of the commercial article?*

BY F. A. THOMPSON, PH. C.

In a general way, Terebene may be said to possess medicinal properties not unlike members of the group of terebenthinates, the healing effects of which have so often been vaunted in the treatment of bronchial affections and diseases of the lungs.

Dr. Murrell (*Brit. Med. Journ.*, Dec. 12th, 1885) reports that he used it in one hundred and fourteen cases of winter cough, with success, and even considers it such an excellent remedy in such cases that he rarely resorts to other remedies. Terebene has little if any toxic effect, and is most agreeably administered on a lump of sugar or in lozenge form.

Authorities report that the most marked effect of Terebene is shown in the treatment of dyspnœa, and this action is likely due to a stimulating one on the heart, and to a contraction of the smaller blood vessels, and partly to astringent properties and a diminution of bronchial secretion; and partly to the relief which it affords to the flatulence with which so many of the patients suffering with emphysema and other forms of lung trouble are afflicted, and thus allowing full play to the diaphragm by removing pressure below.

From its extended use it is certainly deserving of a place in our next Pharmacopœia, which should be explicit in its requirements for purity, based on its rotatory power.

Pure Terebene is a colorless, oily-like liquid, having the odor of thyme oil, a specific gravity of 0.864 and a boiling point of 156° C. Its chief peculiarity consists in its being optically inactive, while oil of turpentine, its source of manufacture, possesses a strong rotatory power.

The manufacture of Terebene is not a difficult matter, and according to Mr. J. N. Hurty (*Pharm, Record*, 1886), it can be easily as well as cheaply made by gradually adding to turpentine, drop by drop, 5 per cent. of its weight of sulphuric acid concentrated, avoiding a very high rise in temperature. The operation is best conducted in a shallow glass or porcelain container, exposing to as much air as possible. After allowing the mixture to stand twelve or eighteen hours, the clear liquid is carefully decanted from the tarry residue, transferred to a glass retort, and distilled. It is essential that the distillation be carefully conducted, and the portion distilled below 160° is reserved and subjected to careful re-distillation, after adding dry potassium carbonate to remove acid and moisture, until it is found to be optically inactive, by the polariscope. It is often found necessary to treat the distillate with fresh concentrated sulphuric acid, though this can be avoided to a certain extent by a more liberal use of acid in the first treatment.

While pure Terebene should be colorless and optically inactive, we do not find all the samples in the market, bearing such labels, to respond to tests for purity. One foreign and four American brands representing the leading manufacturers, were treated in this case, with the following results:

No. 1, German, bearing the label, "Terebene Inactive, optically, specific gravity 0.8747 at 59° F., rotatory power + 0° — 20′, colorless and possessing a satisfactory thyme-like odor," left a slight brownish residue upon evaporation; commenced to distill at 152° C. and most of it was distilled over at 160° C., leaving a darkish brown fluid.

---

* Read before the American Pharm. Assoc. Sept. 7-10, '90.

No. 2, American, labelled Terebene, without any special claim for purity. Specific gravity 0.8641 at 59° F., rotatory power +17°—10′, nearly colorless, and possessing quite a strong turpentine odor and taste. Upon evaporation left a decided quantity of a brownish resin. Commenced to distill at 110° C., a small amount distilling over at 125° and most of it below 160° C., leaving a deep brown fluid in the retort, with a strong odor.

No. 3, American, bearing only the name "Terebene;" specific gravity 0.862 at 59° F., rotatory power +1°—16′, decidedly yellow and possessing a satisfactory odor and taste. Leaves a light, yellowish residue upon evaporation; commenced to distill at 160° C., most of it going over below 170° C., leaving a deep brown fluid in the retort, with a disagreeable odor.

No. 4, American, labeled simple "Terebene." Specific gravity 0.8616 at 59° F., rotatory power + 0° — 40′, and satisfactory in odor and taste. Upon evaporation leaves very little colorless residue and commenced to distill at 162° C., most of it distilling over at 165°, leaving a decided brown residue in retort, having a disagreeable odor.

No. 5, American, labelled "Terebene." Specific gravity 0.8636 at 59° F., rotatory power + 0° — 38′ and possessing a satisfactory odor and taste. Upon evaporation leaves very little colorless residue and behaves like sample No. 4 upon distillation.

The above results indicate that all samples of Terebene on the market are not pure, which agrees with the statements of Messrs. Jay & Chase (*Amer. Jour. Pharm.*, Feb. 1887,) who examined nine samples and found four fairly pure; and Mr. W. Lascelles-Scott (*Year-Book of Pharm.*, 1886.), who examined fitteen samples and found them impure with few exceptions, although all were labelled "Pure Terebene." Comparing the behavior of the above impure and almost pure Terebene, based on rotatory power, when distilled or in boiling point, no uniformity of action takes place, making those tests of little value. The only reliable test is with the polariscope and the absence of more than a very small amount of resinous matter when evaporated.

Laboratory of Parke, Davis & Co.
Detroit, August, 1890.

BOTANY AND MATERIA MEDICA.

CAÑAIGRE.

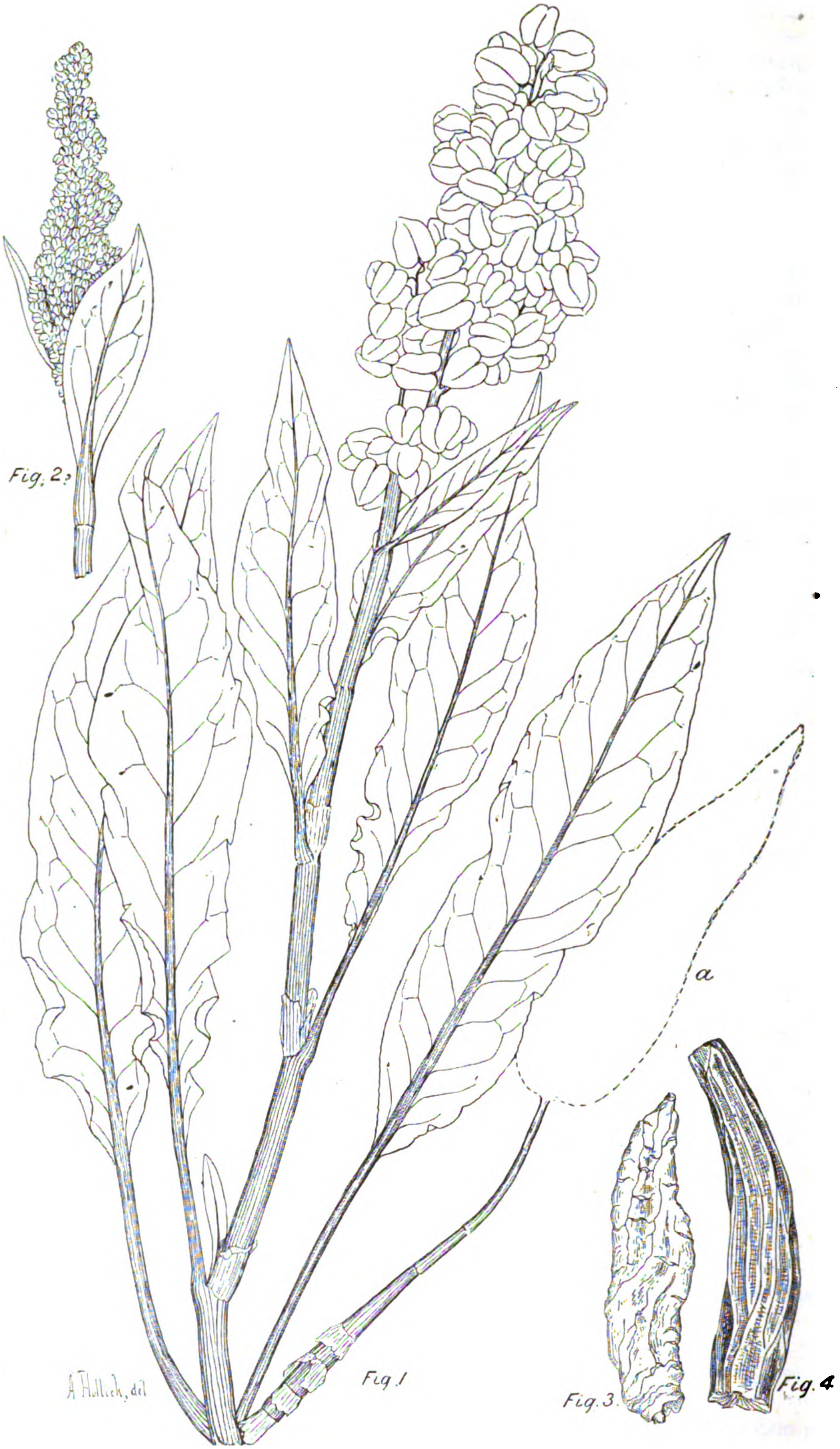
(*Rumex hymenosepalus*, Torr.)

BY H. H. RUSBY, M. D.

Although the commercial history of this plant can scarcely be said to be inaugurated as yet, its present importance is sufficient to entitle it to be much better known by our people than is the case. Its use in tanneries in the section where it grows, and where the ordinary tanning agents are necessarily costly, has been found very satisfactory, and is already quite extensive. This species of Rumex was first collected by Thurber on the Mexican Boundary Survey, its habitat being reported as "sandy soils from El Paso to the cañons of the Colorado," and was named and described by Torrey in the *Bot. Mex. Bound. Surv.*, p. 177. Since then it has been collected by most botanists in the Southwestern region, and is liberally represented in all American herbaria. Mr. Canby writes that he has specimens from Newhall and San Bernardino, Cal., St. George, Utah, and from So. Arizona, which makes quite an extension of the range as originally reported by Dr. Thurber; it also extends much farther to the eastward into Texas than El Paso, and probably makes its way to the southward into Mexico. It will thus be seen that there is a wide field for its cultivation in its own habitat, where it will thrive with a minimum amount of attention. Cañaigre is essentially a plant of the desert, and is remarkably hardy in withstanding adverse conditions, and under cultivation has been found to require almost no care. I have met it frequently in Southwestern New Mexico, in the sandy bottoms along the Gila, as well as farther east along the Rio Grande. As I have seen it growing it formed small patches a few yards in diameter; and here it occupied the ground exclusively, covering the entire surface with its leaves, and its fascicles of tuberous roots touching one another so thickly that often a space of a square yard would be almost packed with them. From this some idea of its prolific yield may be gained, and one can well credit the statement of a correspondent of our Department of Agriculture that the article can be produced at a cost not exceeding one dollar per hundred weight. Regarding its cultivation at Washington, Prof. Wm. Saunders, Supt. of Grounds and Gardens (*Dept. Ag. Rept.*, 1879, p. 364) says:

> Roots planted last year in the grounds of the Department made only a feeble growth before the leaves decayed. They started into growth quite early last spring, and were slightly covered during several nights of heavy freezing weather. They were not perceptibly injured by the cold, and as the season advanced the plants made a favorable growth, throwing up robust flower stems, which blossomed freely, and, although the seed vessel formed, the seeds failed to mature before the leaves turned yellow and decayed, the plants resuming the decidous state.
>
> It is probable that the plant naturally starts into growth very early in spring and rapidly matures, after which the leaves die, the root bulbs probably remaining in the so-called dormant condition for many months. The plant evidently requires a climate where the winter is short and not severe, and a dry, warm, sandy soil.

The supposition here made by Mr. Saunders regarding the manner of its growth and flowering I can confirm.



Explanation of cut.—Fig. 1, fruiting plant of *Rumex hymenosepalus*, Torr., drawn from specimen in Herb. Dept. Ag.; *a*, indicates position and size of fresh root. Fig. 2, top of flowering plant; Fig. 3, unpeeled root; Fig. 4, peeled root. The foregoing reduced one-half.

The appearance of the plants is but little like that of our own species of Rumex except before the flowering season, while the root-leaves lie upon the ground. Then they somewhat resemble a group of depauperate plants of the *Rumex obtusifolius.* During the flowering period it is altogether a smaller plant, and the length and bulk of the leaves are much greater in proportion to the height of the stem than in our species. The figure accompanying Prof. Saunders' report, above quoted, is quite misleading, the result of the growth of the plant under unnatural conditions. The leaves are much too luxuriant and much too spreading, and the inflorescence reduced to almost a vestige. Apparently also the tuberous root is quite near the surface, whereas in the natural condition there is, as indicated in the cut, quite a length of slender underground stem before the deep tuberous portion is reached. The tubers are described as "produced in clusters, like some kinds of sweet potatoes, some clusters weighing several pounds." I have never noted the fact of it growing in clusters, my recollection being that but a single tuber was attached to each stem; but Mr. Ira B. Sampson, of Tempe, Arizona, writes me that he obtained over one hundred roots from one plant, twenty-five of them of the size represented in the cut, none larger. He further states that many of the tubers were worm-eaten, but expresses the belief that by cultivation this could be avoided and the size of the tubers trebled. The resemblance of the tubers to sweet potatoes, except for the dark—almost blackish—brown color, is clearly seen. The average length of the fusiform tubers is about six inches, and their diameter in the fresh state about two inches, possibly more; in drying, they shrink to about half this diameter. If peeled or scraped before drying, the surface becomes of a light, dull terra cotta shade, and thrown into about a dozen very strong ridges, mostly running the entire length of the tuber. Unpeeled dried specimens are of a reddish black-brown color, marked by a number of short transverse cracks, showing the light brown layer next inside. A transverse section of a tuber an inch in diameter exhibits to the naked eye the following structure: A thin outer, wrinkled, corky portion, succeeded by a narrow band of parenchyma of the reddish-brown color of the general surface; next we have a band nearly an eighth of an inch in width—about equalling the portion outside of it—of a grayish drab or slightly bluish tinge, which is seen to consist of a number of closely applied concentric layers, and is prominently dissected by the broad medullary rays. Except for a small pith at the centre, the remaining reddish-brown surface consists of numerous narrow wood bundles separated by broad medullary rays. No microscopical examination has been made.

The domestic uses of the plant are: As a cattle fodder (the leaves being a favorite article in the pasture); as a pot herb or salad; as a substitute for pie plant; and the roots in tanning, as a gargle, and as an application to wounds and ulcers.

Its use in tanning of course takes precedence of all others. The Department of Agriculture reports its extensive use in and about San Antonio, Texas, and Mr. Sampson writes that the Southern Tanning Co. of Tucson, employ it to the exclusion of barks, and that it completes the tanning process in three months. Even though it should be found inferior to bark when there is free choice, yet in sections where bark is not readily or cheaply obtainable it will be found an extremely valuable agent. At the same time it may be found not inferior to bark.

For our knowledge of the composition of the article we are indebted to the *Report of the Chemist of the U. S. Dept. Ag.* for 1878, p. 119. It appears to contain 26 to 27 per cent. of tannin, and its keeping qualities are excellent. Thus it will be seen that its percentage of tannin is about three times that of white oak bark, and about five times that of the root of our common *Rumex crispus.*

As regards its medicinal constituents there is as yet no evidence to show that they are—outside of its tannin—important. The full analysis is as follows:

Emodin	Trace	Soluble in alcohol.	
Yellow resin	.93		
Red substance, soluble in alcohol	10.48		
Red substance, soluble in water Sugar	10.44		Soluble in water.
Rheo-tannic acid	23.45		
Gum, pectin, brown color	6.41		
Albuminoids	5.21		
Aporetin	4.78		
Starch	18 00		
Cellulose	4.52		
Ash	4.38		
Moisture	11.17		
	99.77		

The report concludes as follows:

> Whether this root is valuable either for tanning purposes or medicinal use, must be determined by actual experimentation. The result of the analysis fails to show the presence of any substances that would prove injurious to leather, and the large proportion of tannic acid is certainly a favorable indication. In many particulars this root resembles rhubarb, and it seems probable that it may be used to advantage in place of rhubarb where a more astringent medicine is indicated.
>
> The rapid change of the fresh root from yellow to brown may be due to the change of yellow resin into the less soluble red-brown substances.

The botanical characters according to the *Bot. Mex. Bound. Surv.* are as follows:

> Smooth; leaves ovate-lanceolate, the base narrow, the margin subundulate; panicle leafless. the raceme elongated, erect, the whorls many flowered and approximate; pedicels capillary, equalling the valves; valves broadly cordate, membranaceous, entire, without callosities. * * * * Lower leaves a foot or more long and 2 to 3 inches wide, undulate on the margin; upper ones nearly flat. Panicle a foot long; the flowers crowded. Inner sepals of the fructiferous calyx nearly half an inch long, roundish ovate, strongly cordate, of a very thin texture, often rose

colored, slightly reticulate veined, twice as long as the achenia. It is nearest *R. venosus*, but that is a smaller plant, the leaves with a much longer and more attenuated base, the panicle lax, and with but few flowers in whorls, and the valves are a great deal larger, as well as broader in proportion.

INDIAN FISH POISONS.

BY DAVID HOOPER, F.C.S., F.I.C., QUINOLOGIST TO THE MADRAS GOVERNMENT.

In all countries in the world certain drugs are used to intoxicate fish so as to enable them to be taken by the hand without the use of the line and the net. One of the best known of these is Cocculus Indicus, the berries of a plant called *Anamirta Cocculus*. The berries are made into a paste with boiled rice, and very small pieces of the mass are sufficient to make fish, birds and some animals insensible; in some places the powdered berries are merely thrown into the water. In olden times it was supposed that Cocculus Indicus suffocated the fish as camphor would do; it has now been ascertained that the drug contains a poisonous active principle, very soluble in water, named *picrotoxine* to which all the peculiar effects of the berries are due. From time immemorial in Jamaica the bark of the *Piscidia Erythrina* tree has been used for this purpose; that of the twigs, stems and roots is macerated with the residue from rum distillation, or with lime-water, transferred into baskets, and the latter dragged up and down the river until the poison is extracted and the fish intoxicated. This bark contains a principle having a similar action to picrotoxine, but not very soluble in water. In the South Sea Islands quite a different drug is used for similar purposes. This is the *Sepidium piscidium*, one of the cresses, and possesses an extremely pungent taste. When this is partaken of by the fish, they float upon the surface of the water in a helpless, insensible state, and are then easily taken by the hand.

Besides Cocculus Indicus, already mentioned, there are other fruits, barks and roots used in India, which would be useful to notice collectively. Some of these have come under my personal observation, and been chemically analyzed for the first time; a summary of the results and a list of the poisonous articles used in the Madras Presidency are appended. They will perhaps be of use to those who are experimenting in the propagation of trout in the Nilgiris in pointing out the kinds of vegetation injurious to their existence in all stages of growth.

A fish poison of great activity is the bark of *Derris uliginosa* largely used in Zambesi-land as well as in this country; it also acts as a poison upon worms and the larvæ of insects infesting freshly cultivated land. There is contained a neutral crystalline principle, an alkaloid, a glucoside related to saponin, a wax, two coloring matters, two resins and other plant principles. The tree belongs to the natural order *Leguminosæ*.

The seeds and bark of *Mundulea suberosa* are used in Southern and Western India to stupefy fish. The thick corky bark has an inner layer of a green color and a very bitter taste, which is due to a greenish yellow resin. This resin, present in the seeds and leaves of the plant, is most probably the active principle.

Mr. Hollingsworth, of the Madras Medical College, has called my attention to the bark of *Walsura piscidia* as a fish poison. Dr. Roxburgh, many years ago recorded its use for this purpose, and Mr. Hollingsworth finds that it acts effectually; he has eaten fish killed with it, and finds them quite wholesome. The bark is somewhat acrid, and is stimulating and expectorant in its medicinal action; it contains principally saponin, a resin anhydride and tannic acid.

The *Randia dumetorum* (Rubiaceæ) is an old-fashioned fish poison used from the Himalayan Terai southwards. The fruit is of the size of a small apple, and when fresh has the odor of valerian, and is called in Tamil "*Maruk-kallan-kai*." The nut should be broken before use, as the pulp is the active portion and has an unusual degree of acridity and bitterness, due to the presence of a large proportion of saponin.

Dr. P. S. Mootoosawmy has recently brought to notice the use of a certain plant for poisoning fish in Tanjore, identified as the *Crotalaria paniculata*. As the Crotalarias are not known to have any medicinal activity, a sample was sent for, for analysis. The extract had a powerful odor of henbane, and an alkaloid was detected in it as well as a soft resin, organic acid, and other unimportant substances.

Some fruits of *Diospyros montana* have been forwarded from Travancore by Mr. Bourdillon, the Special Forest Officer. It was remarked that these fruits were used by the hill-men to catch fish, and considered to be extremely poisonous, not only to fish but to man. This statement is rather surprising, considering that some of the species of Diospyros have edible fruits, such as the persimmons, and others are merely astringent. An examination revealed the presence of resin, sugar and coloring matter; the resin was of the greatest interest as it afforded a beautiful violet color with alkalies. The fruits possessed no astringency, and in experiments made upon myself, no poisonous property was experienced. In this case either some mistake was made in the drug, or their deleterious effects upon the human system were over-rated.

The seeds of the Barringtonias as used for fish poisoning in Southern India and Java, are about the size of a nutmeg, and known in the bazaars as "*Samudra-pullam.*" They are acrid to the taste, and when powdered excite violent sneezing. The chemical constituents are gallic acid, saponin, caoutchouc, wax, albuminous matter and a large quantity of starch.

Other fish-poisons not so largely used are:

Bark of *Flueggea Leucopyrus* (Euphorbiaceæ).
Bark of *Securinega obovta* (Euphorbiaceæ).
Bark of *Berberis aristata* (Berberideæ).
Fruit pulp of *Gynocardia odorata* (Bixineæ).
Root of *Millettia pachycarpa* (Leguminosæ).
Leaves of *Macaranga* species (Euphorbiaceæ).
Flower-heads of *Spilanthes Acmella* (Compositæ).

It is interesting to observe that the peculiar principle saponin is contained in several of the above drugs, although they are selected by different people, in different countries, from different natural orders of the vegetable kingdom. Alkaloids, neutral principles, and resins appear to be the active constituents of the others. All are more or less acrid and bitter, and when the poisonous substance is saponin, a body very soluble in water, the fish taken by it would not be unwholesome.

MONTHLY REVIEW.

Even Jove sometimes nods, and the editor of the Department of Botany of the BULLETIN wishes the readers of the BULLETIN to be informed that Mr. Henry Kraemer, the artist, was the author of the beautiful drawings showing the structure of Rhamnus bark in the October number. To the artist's oversight and the inadvertence of the editor, this omission was due.

In the *Druggists' Circular*, Oct., p. 219, appears a paper by Dr. R. G. Eccles, entitled, "What is Pepsin," which we had the pleasure of hearing read at the recent A. P. A. meeting at Old Point Comfort. To point out the defects in this paper is a much less lengthy process than to indicate its excellencies or to give the author the proper credit for his extended and laborious research, and for the presentation of so valuable a contribution to the literature of this subject. Even though some of the author's statements be fallacious, yet they are uttered in such an unequivocal tone as to directly and openly challenge criticism, and to thus set on foot experiments whose benefits will after all be the indirect result of his paper. But in spite of our high appreciation of Dr. Eccles' effort in this direction, we feel called upon to dissent from some of his conclusions on a subject to which we have ourself given some little attention.

The paper may be divided into two portions. First the denunciation of previous assay methods and the conclusions drawn from them; second, the substitution of a method of the author's own.

And further, the first of these divisions refers (*a*) to the determination of the absolute digestive power of a given sample and, (*b*) the digestive values of different samples as compared with one another. He asserts that the results of previously accepted methods in the determination of both these points are practically valueless. After careful consideration of the evidence presented by Dr. Eccles we are disposed to accept his conclusions as applied to the first point, but we emphatically deny them as applied to the second. To be more definite we will quote the author's precise language. He says:

> Many of these men forget that time is an element in the test, and that a multitude of conditions require identity of place and order to get uniformity with common make, or just comparison between rival makes.

No, not a "multitude," but a reasonable number, the same as is true of all other fine experiments, and not so many but that any experienced experimenter can easily comply with them. He follows by saying:

> Until the same man discovers that he can take one brand of pepsin and get it to digest exactly the same proportion of albumen in the same time for six or more trials, he should not pretend to compare the various brands of the market by the current method of testing.

Taking this statement in its spirit, and not in view of any novel interpretation of the term "digest" we assert that this is exactly what can be done, and exactly what makes previous methods eminently practicable in getting at the comparative values of several brands. Of course all that we can determine is the amount of solution, but under reasonably similar conditions this will correspond, and will be a good practical guide to the value of the preparation. That by carelessness or design false conclusions can be—and in a great many published instances have been—reached, cannot be denied. Equally obvious are the inevitable slight inaccuracies in the results reached. But these considerations do not invalidate the results by careful hands for ordinary commercial purposes. He continues:

> When the fact is better known and fully appreciated that coagulated albumen needs no pepsin to dissolve it, but that it will dissolve in 0.2 per cent. hydrochloric acid alone, then our skepticism of the value of the method now in vogue will be considerably increased. The writer can take one part of sugar, bread, gravel, or any other inoperative body and 2,000 parts of albumen, and with dilute acid enough can appear to digest it in six hours. It will certainly all go into solution. What confidence then can be put in any tests that rely solely on the disappearance of the albumen? Yet, this is what many experts call pepsin testing, and the funniest part of the whole matter is that they believe it themselves. In this way, powdered brick dust or glass can be truthfully advertised as digesting 1,000 parts, 1,500 parts, or 2,000 parts, as the case may be, of coagulated albumen in six hours.

That coagulated albumen will digest in 0.2 per cent. of hydrochloric acid *as this solution has ordinarily been used in testing*, is not, so far as our experience goes, a fact. If the above statement means anything at all as applied to our practice, then it will successfully stand paraphrasing as follows:

Under like conditions of time, temperature, fineness, acid, dilution, etc., two equal portions of coagulated egg albumen; the one treated with a grain of powdered glass, the other treated with a grain of the best pepsin, will show the same degree of solution.

Now every one knows that it will do nothing of the sort. Every one knows that the portion acted upon by pepsin will yield a clear solution, while the other will remain in a white mass at the bottom of the vessel. We know it because we have tried it in scores of cases, not with powdered glass, it is true, but with many different substances in many combinations. Under the same conditions, equal amounts of the same pepsin will dissolve equal amounts of albumen, and we believe this to be a good method of determining the comparative digestive power of different brands. Although we cannot say that the quantity dissolved is all digested, we can at least go so far as to assert that none of that is digested which is undissolved.

To the second proposition, that the actual digestive power of pepsin has been greatly over-rated as the result of this class of tests, no exception can be taken. Dr. Eccles has done good service in correcting general misapprehension on this subject. The practical importance of the consideration is expressed in his assertion that much larger doses should be used than are customarily exhibited. Fifteen grains of the best pepsin is certainly more nearly correct than two to five grains, as is ordinarily given.

Another point that Dr. Eccles' experiments would seem to establish beyond cavil, is that when a pepsin is freed from the contamination of insoluble mucous it becomes hygroscopic, and that the latter quality, which is so frequently deprecated, is unavoidable except by the presence of this undesirable constituent.

The concluding claim of the paper is that the author has discovered a constituent of pepsin which he calls *peptose*, whose percentage is a true and constant index of the digestive (solvent) power of the article. This substance is estimated by boiling an acid solution of the pepsin, when the peptose is precipitated. The author's view of the nature of this substance is expressed in this sentence: "Let us now use the word peptose for cooked pepsin." That the proportion of this peptose is a true indication of the digestive value of the pepsin, appears clearly indicated by the experiments detailed; but, as was stated in the debate which followed the reading of the paper, it is by no means proven to be cooked pepsin. It may be either more or less than that. That is, it may be either a body which carries the pepsin with it, or it may be one constituent of the pepsin, truly indicating its percentage, but yet not, properly speaking, "cooked pepsin." This conclusion, therefore, must be considered as probable rather than proven.

In a continuation of the subject in the *Circular* for November, p. 245, he takes up the methods of assay in detail, and proposes important modifications in the old method, which go very far toward eliminating the slight inaccuracies referred to. Instead of coagulating albumen and then comminuting it, he shakes it up thoroughly with water and then coagulates, thus getting it into a very fine condition. Then, instead of estimating the amount remaining undissolved after a certain time, he allows the samples to remain until dissolved, and compares by the relative periods of time required.

At the same time, therefore, that Dr. Eccles proposes an entirely new and apparently better method of pepsin-testing, he must be credited with materially improving the old method.

In the *Medical and Surgical Reporter* of Sept. 27th appears a paper, read by Dr. John Aulde before the Montgomery County (Pa.) Medical Society, entitled "The Use of Rhus Toxicodendron." Dr. Aulde lays special stress on the importance of having a preparation properly made from fresh leaves, and explains the effects of such minute doses upon the principle of "Cellular Therapy,"—a modification by the drug of the physiological action of the cell, by which it is enabled to combat the disease—and without giving support to the homœopathic explanation. He advises the use of Rhus in rheumatism, sciatica, lumbago, hæmorrhoids, varicose veins, chronic cystitis, paralysis with rheumatic history, gout, erysipelas, typhoid fever, digestive disorders and skin diseases. This is one of the drugs whose properties are at the present time the most earnestly disputed. While some eminent and skilful practitioners utterly fail to obtain results with it, others claim that it is highly efficient. In the *Medical Age*, Oct. 10th, p. 441, Dr. J. W. Anderson also offers strong testimony in its favor.

The availability of the bark of the *Pseudotsuga Douglasii*, Carriere, as a substitute for the present cork of commerce, is the subject of a short contribution to the proceedings of the late A. P. A. meeting, by Mr. A. O. Ingalls. The value of the introduction of such an industry as this into our country will be appreciated without extended comment. The chief difficulty encountered by Mr. Ingalls seems to have been the inadequacy of the supply, a fact which appears surprising in view of our knowledge of the extensive range of this immense tree. As we have seen the tree growing in New Mexico and Arizona, it would seem as though a large portion of the American supply—should the quality be found satisfactory—could be furnished by these mountains alone, notwithstanding that they lie a little outside of the chief range of the species. Although 150 feet is about the greatest height that we have seen them attain, they are reported as reaching to nearly twice that stature. The common names by which this tree is known are "Red fir," "Yellow fir," "Oregon pine," and "Douglas fir," and the following is a list of the botanical synonyms, according to Sargent, from whose *Tree Census*, 1880, p. 209, the succeeding quotation is taken:

Pinus taxifolia, Lambert; *Abies taxifolia*, Poiret; *Abies Douglasii*, Lindley; *Abies mucronata*, Rafinesque; *Abies mucronata palustris*, Rafinesque; *Pinus Douglasii, var. brevibracteata*, Antoine; *Picea Douglasii*, Link; *Tsuga Douglasii*, Carriere; *Tsuga Lindleyana*, Rœzel.

Coast ranges and interior plateau of British Columbia south of latitude 55° N. (not reaching the coast archipelago north of Vancouver's Island), east to the eastern slope of the Rocky mountains in latitude 51° N. (Bow River Pass, Macoun); south along the mountain ranges of Washington Territory, Oregon, the California Coast ranges, and the western slope of the Sierra Nevadas, through the mountain ranges east to Montana, Wyoming, Colorado, and the Guadaloupe mountains of Texas; in the Wahsatch and Uintah mountains, the ranges of Northern and Eastern Arizona, and southward into Mexico; not detected in the interior region between the Sierra Nevada and the Wahsatch mountains, south of the Blue moutains of Oregon, and north of Arizona.

A large tree, 61 to 92 meters in height; with a trunk 0.83 to 3.66 meters in diameter, or in the Rocky mountains much smaller, here rarely 30 meters in height; the most generally-distributed and valuable timber tree of the Pacific region, growing from the sea-level to an elevation in Colorado of nearly 10,000 feet; often forming extensive forests, almost to the exclusion of other species, and reaching in western Oregon and Washington territory its greatest development and value.

Wood hard, strong, varying greatly with age and conditions of growth in density, quality, and amount of sap; difficult to work, durable; bands of small summer cells broad, occupying fully half the width of the annual growth, dark colored, conspicuous, soon becoming flinty and difficult to cut; medullary rays numerous, obscure; color varying from light red to yellow, the sap-wood nearly white; specific gravity, 0.5157; ash, 0.08; largely manufactured into lumber and used for all kinds of construction, railway ties, piles, fuel, etc.; two varieties, red and yellow fir, are distinguished by lumbermen, dependent probably upon the age of the tree; the former coarse-grained, darker colored, and considered less valuable than yellow fir.

The bark is found valuable in tanning leather.

From the above it would appear that the large amount of tannin would be an objection to the use of this bark in the form of corks.

From the *Proceedings of the American Academy of Art and Sciences* is reprinted Prof. Watson's seventeenth contribution to American botany, and a most interesting number it is. One hundred and four new species are described, chiefly from Pringle's Mexican collections. New genera are Sargentia (species *Greggii*), a small Rutaceous tree of the vicinity of Monterey, Jaliscoa (species *Pringlei*) in the Eupatoriaceæ, and Rhodiosciadium, of the Peucedanoid Umbelliferæ. We can scarcely congratulate Prof. Rose on the peculiar manner in which his name has been embalmed, but at all events the genus seems a very good one. In addition to these novelties there is a rich collection of critical notes on known plants. Dr. Watson has been unusually liberal in treating his subjects, and the collection is one to be treasured. a list of the known species of Streptanthus, with localities, is not the least valuable portion of the work.

The first number of Vol. 2 of the *Memoirs of the Torrey Botanical Club* is a contribution by Prof. Byron D. Halstead of Rutgers College entitled "Reserve Food Materials in Buds and Surrounding Parts." Prof. Halstead is one of our most faithful and patient workers in Agricultural Botany, the department of the science which especially interests him. The present paper, although of a high scientific order, is full of practical suggestions.

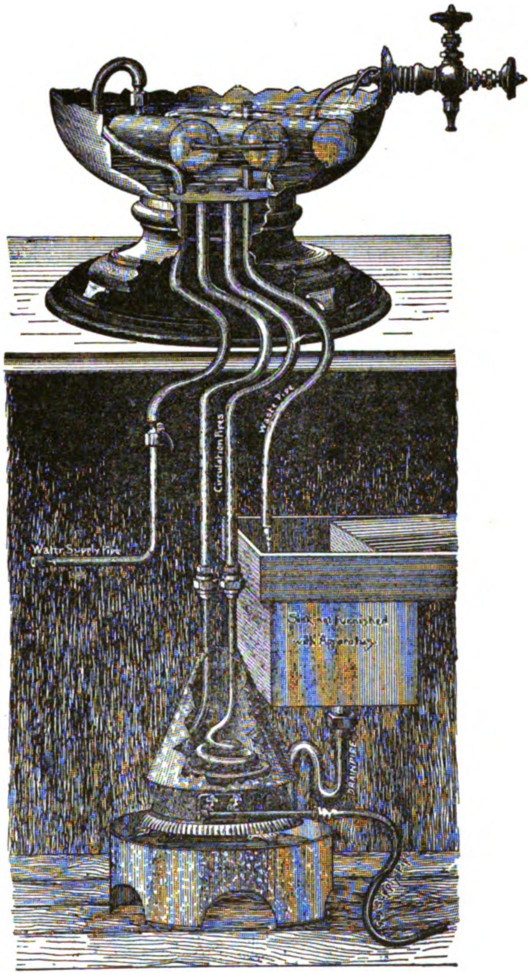
In the *Medical Age*, September 25, p. 413, Dr. F. W. Goodall discusses at length Fells' method of forced respiration as applied with great success in poisoning by opium.

PHARMACEUTICAL APPARATUS AND INVENTIONS.

AN IMPROVEMENT IN SODA-WATER APPARATUS.

THE TORRID HEATER.

The manufacturers of soda water apparatus to-day, have rendered the appliances for supplying soda water beverages works of art, and a profitable investment for all druggists who wish to increase their patronage and profits.



In a recent visit to Boston, we had occasion to call at the exhibit buildings of the Fair being held there. In this extensive exhibit, soda-water apparatus constituted a most important and interesting feature. Here it was learned that valuable improvements had recently been made in soda water apparatus. One of these, through the courtesy of the manufacturer, James W. Tufts, we are enabled to illustrate. It is entitled "Torrid Heater," and affords an attachment to soda fountains, and adequately fulfills its purpose of enabling the druggist to conveniently dispense hot soda water *ad libitum*.

This heater is the result of the experience of many years in manufacturing and operating hot soda-water apparatus.

It has been thoroughly tested in practical use during the season of 1889–1890. All apparatus having the water-bath above the counter being supplied with it.

The illustration is a sectional view of the water-bath chamber of a silver-plated Torrid apparatus, showing the construction, with the various pipes and arrangement for heating.

Aqueduct water from the city service pipes enters at the supply pipe, and passes through a set of three cylinders located in the water-bath chamber, to the draught-tube.

Upon opening the upper valve of the draught-tube, the water passes back through another passage and flows into the water-bath, which, when full, overflows through the standing waste pipe.

From the bottom of the water-bath two circulation pipes extend downward, connecting with a spiral coil of tinned copper pipe. These pipes and the coil fill with water when the water-bath chamber is filled.

Heat is supplied by a gas or oil stove. The illustration shows a gas stove with two burners.

The gas stove is mounted upon a base or stand of Galvanized iron, and upon it rests the spiral coil, covered by a cone-shaped shield of Galvanized iron, which serves to concentrate the heat upon it.

When the stove is lighted and the coil becomes heated, the hot water ascends in one pipe and the cold water descends in the other, establishing a circulation which quickly and economically heats the water in the bath.

As shown in the illustration, it is not necessary to cut a hole in the counter to use an apparatus provided with this heater, and there is no liability of staining the counter with soot, nor of the slab being broken by heat.

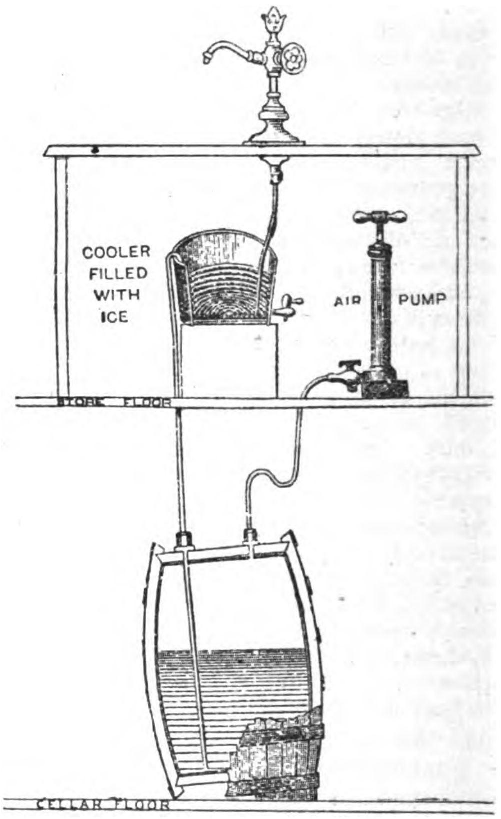
The stove being placed upon the floor receives plenty of air, and is conveniently located for cleaning, filling, lighting, and regulation of flame, thus assuring freedom from odor. The gas being consumed at a greater distance from the silver, the latter will not tarnish so quickly, and therefore will not require such frequent polishing; and as doors and nearly all ventilating holes are unnecessary with the heater, they will be omitted, greatly facilitating cleaning and polishing.

Few druggists appreciate the benefits to be derived from maintaining their soda water patronage through the winter months. If ice cold preparations of soda water are sought in summer, why should not hot ones be equally acceptable in winter.

Nut-Cracking Department.

A Practical Beverage Fountain.

Cider: A simple and practical device for drawing cider and similar beverages, not charged with carbonic acid gas under pressure, is illustrated below:



A barrel or earthen vessel of similar construction can be employed as a container.

The principle involved is apparent at a glance; air is pumped into the tight container, and the fluid is forced through the cooler and fountain with any pressure desired.

Trouble.

The aggregate troubles of life are largely made up of small annoyances. In themselves each seems but a trifle, but in piling up they constitute the mountain of difficulties which each individual thinks he is forced to encounter. They come to be accepted as part of the inevitable, yet no one becomes so hardened as to acquiesce without at least a passing complaint.

If a good housewife expects a washwoman on Monday and she fails to show up before Thursday, there is no particular harm done, but it's very trying and has been responsible for many a domestic tempest that would never have arisen from any other cause. Of kindred nature are the endless series of troubles encountered in the servant girl problem. One of these most independof handmaids engages to work for a lady, heads off half a dozen that are willing to accept the situation, and then cooly decides to cast her lot with some other family where the wages are better, the children fewer, or the work lighter. In this is the American housewife's chief temptation to profanity. She has other afflictions when the gasolin stove persists in acting up and going out just when its services are in the greatest demand. The range never smokes so persistently as on wash morning, and the oven only shows its wondrous capacity for keeping cool when a particularly good dinner or important baking is being looked after. The baby is worst when there is the least time to care for the darling pest; company is sure to arrive when it is the hardest to care for it; bills come in when the exchequer is lightest, and in all things there seems to be a conspiracy to vex the patient long-suffering head of the house-hold.

Then there's the good woman whose telephone goes on a strike just when she is pressed for time in which to have an order filled, and she might as well "hello" into a lamp chimney. Groceries fail to arrive, the ice dispenser overlooks your doorway, the milk sours without apparent provocation, the steak proves as tough as raw hide just when you want the tenderest and juciest, the cake comes out heaviest when you want it best, and thus it runs through all the range of annoying possibilities.

But the lords of creation also have their full share of the burden. A lost collar button has caused a row that all parties in interest have regretted for days afterwards. Two to one your hat isn't where you expect to find it. Your collar doesn't fit, your shoes are loaded down with mud, the coffee doesn't taste right, you get away behind time and with a temper that would afford courage enough for a prize fighter.

There's the street car driver bowling along behind schedule time with a view to making it up. All at once he brings up short against a broken-down coal wagon or load of hay. He can only say bad words about his luck and help clear away the wreck. You rush for a train only to see the hind end of it disappearing. Your business partner takes sick just as you are about to start for a long expected outing. The family dog shakes the lining out of your best coat or makes ducks and drakes out of some familiar book in the library. The minister makes a pastoral call just as you're gathering a select lot of kindred sports about a poker table or cribbage board. You break the mainspring of your watch, lose your pocketbook, have nothing less than a dollar when the contribution box is passed, get a suit of clothes that does'nt please you but you must wear out, catch your boy going fishing when you thought him at school, get down town to find that your memorandum book is at home, leave your pocket-knife in your other pants' pocket and carry your wifes' mail until she "raises Ned."

You arrive at the pharmacy in the morning to find that the clerk who opens the store has overslept. The slab at the soda fountain is sticky. You draw a glass of ice cream soda for a lady customer who finds a fly in it. You figure the cash account a dozen times to trace a shortage of only a few cents. You put up a prescription for a customer who is in a great hurry, and break the bottle on the marble counter while wrapping it. You next hustle at a prescription which necessitates the weighing of a number of sticky extracts to be put in capsules and are nearly exasperated by the customer who keeps inquiring "if it is nearly ready?". You go to the shelf for some patent medicine only to find that some one has sold the last bottle and forgot to put it on the want book. While scolding the clerk you cut your finger on a broken graduate, lean against a sheet of sticky fly paper—and so it goes clear through the list, for life is largely made up of just such annoyances if we are inclined to be impatient.

Prescription Hieroglyphics.

A medical journal recently took occasion to explain that in a prescription printed in a previous number, the quantity of water was given as one scruple when a pint was intended.

This absurd mistake of course arose from an adherence to the antiquated system of designating quantities by learned-looking but barbaric symbols. It is not at all difficult to confuse ℈j with Oj, nor ʒj with ℥j for that matter.

The common-sense method of indicating quantities in a prescription or formula is to write them out in such a way that no mistake can occur, thus following the excellent example long since set by the most authoritative of our pharmacal works—the Pharmacopœia itself. When the prescriber writes "one drachm" there is not the remotest possibility that, however bad the chirography, any dispenser will take the direction to be "one ounce."

The general application of this rule would overcome an objection which is commonly offered against the metric system. It has been urged that great danger lies in the misplacement of a dot. There is much force in this argument, yet we do not think that the Americans who are so patriotically opposed to the foreign decimal system of weights and measures, often make such mistakes in using the American decimal system of currency by writing the figures for one dollar when they mean ten cents.

If, however, the plan of writing out the names of the units and the quantities required were universally adopted, the danger lurking in the decimal point would be abolished.

Smelling Salt.

"Sundries."—Here is a formula which yields gratifying results:

Ammonium chloride	3½ ozs.
Potassium carbonate	4½ ozs.
Oil of lavender	½ oz.
Oil of lemon	3 drs.
Oil of bergamot	1 dr.
Oil of clove	15 mins.
Ammonia water, a sufficient quantity (about one fluidrachm).	

Triturate the chloride and carbonate well together; then add the oils, and finally enough ammonia water to slightly moisten the mass.

The perfume of smelling salt can, of course, be varied to suit individual taste, but it must be strong enough to prevent too great a predominance of ammonia. Spicy and especially citrine odors are best adapted for the purpose, the latter having a peculiarly refreshing quality. Musk and similar substances should never be used with ammonia.

A Puzzle.

Mr. Edwin Boswell, of Frankfort, Ind., contributes an interesting specimen of the requisitions frequently presented to him to fill. Following is a true copy of the original order, which was pencilled on a scrap of coarse paper:

"*kulaited uh lised opan in lick wid form.*"

Mr. Boswell states that he supplied deodorized tincture of opium. We should hesitate to dispense an opium preparation on such an uncertain prescription, but presume that our correspondent based his opinion upon inquiry made concerning the requirements of the consumer.

Some of our readers may be able to translate it more correctly. If so, we should be pleased to hear from them.

Salicylic Acid Solution.

M. B. R.—One part of salicylic acid dissolves readily, with the aid of gentle heat, in 50 parts of glycerin, forming a permanent solution.

This 2-per-cent. solution will not bear dilution with water, the addition of almost any proportion of which causes deposition of the acid.

If, on the contrary, one part of salicylic acid is dissolved in 100 parts of glycerin, the 1-per-cent. solution thus obtained will bear dilution with water in almost any proportion without precipitation.

Mistakes.

A green boy in a New York drug store helped himself to "some little round candies." They were morphine pills, and he had a very narrow escape.

An Oakland, Cal., druggist distributed throughout the city packages of blood purifying pills. A little boy got hold of a package, ate its contents, and nearly died.

From Winnie, Ark., comes information of death by poison of a distinguished Episcopal minister. He applied to a drug store for morphine in capsules, and through mistake the clerk put up strychnine.

We are informed that during the past summer a leading druggist of St. Paul made an assignment. The failure was precipitated by a peculiar incident. A clerk in the store sold a young lady a package of colchicum root. He gave her incorrect instructions, and the quantity used produced death. Her friends took the matter into court and secured a verdict for $5,000 for criminal carelessness.

We recently read that a homœopathic doctor prescribed five grains of sulphate of morphine for a patient whom he intended to give a like quantity of the sulphate of quinine. The prescription was written in such a manner that it failed to excite the druggist's suspicion that anything was wrong, so he dispensed it. The patient took the fatal dose only to fall the victim to errors which have occurred more than once. No prosecution was pushed, although the physician was arrested. The deeding of his property over to the widow had such an effect npon the court that the prisoner was discharged.

The following information is afforded by an editorial in a recent issue of the *Druggists' Circular*, published in New York:

A most singular misadventure has recently occurred in this city. By a series of unfortunate circumstances a woman came to her death by exercising too much caution in regard to a medicine directed to be given to an infant.

The three-months-old baby of Theodore Arbes, who resides at 227 East Sixty-ninth street, was sick and Dr. A. M Lesser was called to treat it. He wrote a prescription for tincture of aconite, the directions being to add six drops to a glass of water and give of the mixture a teaspoonful every hour.

Mrs. Sedak, the child's grandmother, took the prescription to a neighboring pharmacy to be filled, and when the medicine was given to her, her attention was especially called to its dangerous character and to the directions plainly written on the label. The doctor had also previously enjoined care and it being thus impressed on the grandmother and mother that the medicine was dangerous, they both determined to taste it before giving any to the baby, with the praisworthy but illogical idea that they could thus judge whether they ought to follow the doctor's prescription.

The grandmother got enough of the aconite to kill her in a short time, and the mother barely escaped death.

Possibly the fatal result may have been contributed to by the dispensing of a larger quantity of the drug than was intended by the physician. He claims to have written 7.5 grammes, but the decimal point is said to have been invisible, and the pharmacist consequently put up 75 grammes. He was surprised at the large quantity, but dispensed it, as the prescription seemed to him to be plainly written, knowing, of course, that the quantito was not a matter of vital importance so long as the directions for use were properly complied with. The quantity may have caused the women to regard the drug with less caution than if a smaller portion had been dispensed. Yet who could predicate anything as to the mental working of persons who deliberately tasted a preparation against which they were warned, one of them taking a quantity estimated at a teaspoonful or more?

While patients or their friends do not often succeed in killing themselves by an excess of caution in testing their prescriptions, many more or less harmful blunders undoubtedly occur by the physician delegating to them a portion of the work of the apothecary. In matters of medicine the mental equipment of the average layman is exceeding poor, and he will make mistakes whenever the slightest occasion arises. Notwithstanding this, physicians will often entrust to their patients the making of solutions and dividing of powders. Such economy, whether from charity to the patient or consideration of indirect benefit to the doctor's own pocket from gaining a reputation as a lessener of his customer's drug bills, is reprehensible.

Dr. Lesser would probably feel better satisfied with himself if he had not entrusted so much poison to people who proved to be so curious-minded, but he can in a measure justify himself as having followed custom. But since this custom has shown itself to be always attended with risk, and now proves to be horribly fatal, its observance should be steadily combated by every practitioner of medicine.

CHESTNUTS.

"Never run into debt, unless you see plainly a way to get out again."

"When a woman begins to get as sweet as sugar, look out for sand."

"The reputation of many a shop is impaired by rude and uncivil clerks."

"The virtue that needs to be ever guarded is hardly worth the sentinel."

"The man who is always cheerful gets, as he gives, the very best of life."

"No man is as good at home as his picture looks in his neighbor's album."

"Action speak louder then words," unless you happen to be using the telephone.

Josh Billings once said—"The best time to set a hen is when the hen is ready."

"Even the laziest of men can usually see some work that some other fellow ought to do."

"The man who is in love with his work never need fear any rivalry from other people."

"The red-haired girl's hair is undeniably her own, and that is a splended point in its favor."

"Marriage with a man is like the month of March; if he goes in like a lion he never fails to come out like a lamb."

"The average man can be philosophical on two occasions—when he is in liquor, and when his neighbor is in trouble."

"A man of pleasure is one who, desirous of being more happy than any man can be, is less happy than most men are."

"A hearty laugh is the most effective cure for the blues, and *vice versa*, the blues are the most effective cure for a hearty laugh."

"What is more annoying than to meet a person who will insist upon talking about themselves, when you want to talk about yourself?"

"The man who contradicts is very disagreeable company—particularly when you happen to be in the wrong and he is in the right."

"When it becomes possible to tell a friend he has done well without telling him how he might have done better, then watch for the millennium."

"Bring up a child in the way he should go, and when he is old, for the sake of variety he will depart from it. There is much wisdom in this observation."

"When gentle woman meets grim grief,
And for her woes sees no relief,
Nor aught her aching heart to cheer,
She drowns her sorrow in a tear.

But man, when every sky is lowering,
Nor deigns to clear for all his glowering,
How flees he then from hateful care?
He drowns his sorrow in a *tear*.

"If the face in the moon
Wear a frown, alas!
Luck will be poor till the month shall pass.
If the face in the moon
Wear a smile, why, then
Luck will be good till it frown again."

So runs a verse
That I used to say;
I have learned it since
In another way.

"If a face be marred
By a frown, alas!
Luck will be poor till the frown shall pass.
If a face be bright
With a smile, why, then
Luck will be good till it frowns again."

If the first be true,
'Twould be hard to say;
But the last, if you will,
You can prove each day.

Correspondence.

PARIS LETTER.

The Preparations and Popularity of Cannabis Indica—Punishment of Pharmacists for Substitution, for Selling Secret Remedies, and for Practicing Medicine—Method of Distinguishing Resorcin from Salicylic Acid—Revival of a Once Highly Esteemed Remedy, Herniaria—Properties and Medicinal Application of Guaco—Formulæ of Vienna Physicians for Constipation of Children.

For two or three months past pharmacists have been amused, and, from a business point of view, well satisfied, to observe the inflow of prescriptions for Cannabis Indica. Professor Sée has declared this drug to be "the veritable sedative of the stomach" and "the best remedy for certain forms of dyspepsia accompanied by pain," adding, as is usual nowadays, that it possesses none of the evil properties inherent in other medicines used for similar purposes. Remarks of this nature from Sée or Beaumetz are excellent for business. Drugs for indifferent stomachs and imperfect bowels find ready sale here whenever they get any special endorsement from members of the faculty. Of the various preparations of Cannabis, Sée gives the preference to *Haschischine* in a form which the pharmacists call "the fatty extract." This is made by dissolving 5 parts of Gastinel's haschischine in 95 parts of butter. The daily dose of this is 5 cgm., divided in 3 parts. The pharmacists say that it would be better to use a more stable excipient than butter, and they have asked Dr. Sée to recommend granules of haschischine, these to contain a milligramme each of the alkaloid. Three granules daily would represent but a fraction more than Sée's dose. Smith, of Edinburgh has prepared a *Cannabin* which has about the same strength as that of Gastinel. The *Répertoire de Pharmacie* expresses the opinion that the uncertain and non-identical preparations called *Cannabinon*, *Cannabin*, *Cannabein* and *Tannate of Cannabin* should be banished from therapeutics.

We do not often hear of cases of legal punishment of pharmacists for the substitution of drugs, but the circumstance is occasionally observed, and when it is, the Parisian pharmacist strengthens his list of good resolutions for the future. A doctor of Grenoble who was treating a patient for typhoid fever, prescribed cachets of beta-naphthol and salicylate of bismuth. The local druggist had no beta-naphthol in stock and so dispensed naphthalin. This brought on obstinate vomiting, and caused much discomfort to the patient as well as trouble and anxiety to the physician. The latter brought the matter to the notice of the Grenoble courts. The judgment—divested of legal verbiage—was as follows: The accused, having substituted the drugs as specified, and committed an act fraught with danger to the public health, it is decreed that he pay a fine of $100. and all of the expenses of this suit. So substitution will for some time be out of vogue in Grenoble.

A dealer in crude drugs in Nantes has just paid a series of fines for an interesting group of faults. Of these, $100 was paid for the illegal practice of pharmacy; $20 for selling secret remedies; $3 for the illegal practice of medicine; and $40 to be given as damages to the local Society of Pharmacists. Besides these fines he was compelled to pay for the insertion, in three of the local papers, of the record thus made against him in the courts. Of course, the judgment pleases the pharmacists; but the doctors think that $3 is a small fine for a man found guilty of practicing medicine without a diploma.

In the *Jour. de Ph. et de Ch.*, M. Boddé gives an excellent method by which to distinguish Resorcin from salicylic and phenic acids. If, to a solution of Resorcin in water or alcohol, says the author, we add a few drops of hypochlorite of soda, we get a violet coloration which soon passes to yellow. If we add more hypochlorite, or warm the solution, we get a deep brown or red color. The violet coloration which first forms is clearly perceptible in solutions which contain but one part of Resorcin to 10,000 parts of water. With phenol and salicylic or benzoic acids, we do not get the violet coloration; the liquid either remains colorless or becomes feebly fluorescent. With heat we have a yellow tint. Again, if to a solution of Resorcin we first add a few drops of ammonia and then a few drops of hypochlorate of soda, the liquid takes a fugitive, reddish-violet color which changes to yellow, and becomes dark green with heat. Solutions of salicylic acid, benzoic acid, and acetanilid, do not become colored under these conditions; phenol takes a greenish-blue color.

Barth and Herzig have lately called attention to the revival in the use of Turquette, or Herniaria, once an esteemed and popular remedy. This plant is known to botanists as *Herniaria glabra et hirsuta* (L.), and is described in the new edition of the Austrian Pharmacopœia. These pharmacologists are now studying the plant with a view to finding its proximate principles. Thus far they have found an alkaloid which they call *Hernarine*, and a glucoside which in its characters and its toxic effects bears a resemblance to saponin. Herniarine has the formula $C_{20}H_8O_6$. This is stated to be the same as the "methylic ether of ombelliferon," of Tiemann and Reimer, a body which they obtained synthetically. The glucoside, when treated with diluted hydrochloric acid, decomposes into a sugar and a substance having a formula of $C_{22}H_{28}O_6$, and to this the authors have given the name of *Oxysapogen*.

Dr. Butte, Chief of the laboratory of the Hôpital St. Louis, has been experimenting with Guaco (*Mikania guaco*), and finds its properties, therapeutic and otherwise, to be such as to make it worthy of a more or less important place in Materia Medica. He says it acts beneficially upon the digestive apparatus and the nervous system. These are the points which most commend a drug to the average Parisian, so pharmacists look for an era of popularity for Guaco. However this may be, Dr. Butte finds that the drug has drastic properties, and, in sufficient quantities, may act as an emetic; the author calls it an "emeto-cathartic." It should be used cautiously (if at all), as small doses have given rise to toxic symptoms. It diminishes nervous sensibility, and has an excellent action in various painful affections, notably neuralgia. As a local application for dry eczema with pruritus and a burning sensation, it has succeeded admirably. It is applied with compresses dipped in a solution of 20 parts of powdered Guaco to 1,000 parts of water.

The *Gazette Hebdomadaire* lately published some of the most popular formulæ in use by Vienna physicians, for the constipation of infants and small children. For the new-born the formula is: Crystallyzed mannite, 5. to 10. grammes; water, 50. to 100. grammes. Dose, one teaspoonful every two hours. Vienna laxative powder is made as follows: Powdered rhubarb, 3. to 5. grammes; carbonate of magnesia, 3. to 5. grammes; oleo-saccharate of anise or fennel, 5. grammes. Dose, a pinch three times daily. For constipation in children of two to four years, the formula is: Inf. sennæ comp., 30. to 35. grammes; water, 30. to 50. grammes; syrup of cherries or raspberries, 25. grammes; the whole quantity to be taken in two or three doses. A purgative syrup which agrees well with children, and is much liked by them, is made as follows: Citrate of magnesia, 30. grammes; syrup of cherries, lemons, or other fruits, 40. grammes; distilled water, 60. grammes.

"Good laxative preparations for the children," say the pharmacists, "give comfort and happiness to the mothers."

LONDON LETTER.

Re-appearance of the Pharmacy Act Amendment Bill—Presentation of a Portrait of Mr. Michael Carteighe to the Council of the Pharmaceutical Society—Inaugural Meeting of the School of Pharmacy—Opening Address—The Question as to the Purity of Synthetical Salicylic Acid.

It is during the month of October that signs of reanimation are observable in the various branches of science and art. It must not be inferred from this remark that the work classed under these heads ceases, even for a time, to be carried forward; it is not so much that the *work* is recommenced as that its *results* are more conspicuously set forth. The budding of the bare and leafless branches of the tree in spring, is not a symptom of new life so much as of energy which has been pent up and, to some extent, accumulated during the winter.

With the opening of the pharmaceutical session in this country came also a new Pharmacy Acts Amendment Bill—a new edition of the perennially recurring Curriculum Bill. In deference to the pressure of public opinion in the pharmaceutical world, however, more matter dealing with the so-called "trade interests" is introduced every year, and by-and-by perhaps the members of the trade will get something to arouse their—— I had almost said enthusiasm, but that the British pharmacist can never experience; let us say, interest.

The student of human nature cannot fail to observe that it is easier for a body of men to join in opposing a measure of this kind than in supporting and helping it forward; easier in the sense of being more attractive. It is doubtless owing to this factor that the new Bill has at present attracted little discussion and perhaps less active interest.

The various clauses of the Bill deal principally with the curriculum; the division of the qualifying examination into two parts; the partial reconstitution of the Society and other internal rearrangements; the restriction of prescription compounding to qualified men; and exemption from jury service for chemists and druggists. There were one or two Councillors who wanted to introduce a clause attacking joint-stock companies, but they were overruled. It is very generally felt that the system of joint-stock trading is too strong to be shaken or even menaced with impunity.

A function of considerable importance was the presentation of a portrait (rather over life size) of Mr. Michael Carteighe (President) to the Council of the Pharmaceutical Society, while at the same time a replica was offered to Mrs. Carteighe. The portrait was exhibited in the Royal Academy, and was quite characteristic of the man. Mr. W. Hills, one of the Councillors, delivered a speech eulogistic of Mr. Carteighe, and was followed by the Vice-President, and Messrs. Atkins and Schacht. Mr. Carteighe was so much affected as to be unable to speak, and from some expressions heard after the meeting it is evident that some pharmacists who have only seen the President of our Society in his moments of vivacity, and even fire, were a little surprised to see him from a new and very different aspect.

The inaugural meeting of the 49th Session of the School of Pharmacy was of the usual character, save in one particular. Prof. Attfield has recently been appointed Dean of the School, and in that capacity read a report of all the classes, instead of each professor being called upon to make his own report. The distribution of the prizes and certificates having been made by the President of the Society—the blue ribbon of Pharmacy, or Pareira Medal, was taken by Mr. E. B. Sherlock—Sir Edward Sieveking delivered the Sessional Address. The points refered to were not numerous. A good deal was said about raising the scientific status of pharmacy, and about co-operation between that art and medicine, while vivisection also came in for mention and defence. The possible power of the official organ of the Society was strongly emphasised in a manner that left the hearer in an uncomfortable condition of doubt as to whether the remarks were intended to be complimentary or, as seems more likely, rousing and stimulating. Some observations on curriculum, and the teaching of botany and chemistry, occupied a few minutes, and then the question of patent (or more properly proprietary) medicines was touched upon. Characterising the whole as immoral and injurious to the community, Sir Edward urged pharmacists to do all in their power to discountenance the sale of secret remedies.

There is not much in this that calls for comment. Perhaps a defence of vivisection is scarcely needed; its opponents belong largely to the class described in your country as "cranks," either religious or humanitarian, and the dying out of such opposition is only a matter of time. That an amount of definite and very practical good has been compassed through vivisection that no other means could have supplied, needs no demonstration to-day. Pharmacists are already sufficiently inclined to discountenance the sale of patent medicines to need any urging thereto; the profit is mostly microscopic, and the trouble and inconvenience of storage are considerable.

No little interest has been excited in the "North Countree" by a prosecution having reference to the quality of salicylic acid. It is not altogether clear what gave rise to the action, as the acid on which it was founded seems to have answered the B. P. requirements, at least as to melting point. The B. P. states that salicylic acid shall have a melting point of about 311° F. (155° C.); that of the Glasgow chemist melted at 154.7° C. If, therefore, as was stated by the prosecution, this low physical factor was an evidence of impurity, it is clear that the B. P. recognizes an impure article.

It is of course well known that cresotic acid is present in some samples of salicylic acid not only to the extent of 2½ per cent., as alleged in this case, but to that of 5 or 6 per cent., and the researches of Prof. Charteris have sufficiently proved that the cresol derivative is a poisonous compound capable, in relatively small doses, of producing disturbing effects. Nevertheless one cannot help feeling surprised that one of the experts asserted, before laymen, that the melting point "should be 156.8° C." The speaker meant, of course, that the melting point of chemically-pure salicylic acid should be that given, but so long as the Pharmacopœia does not state anything more definite than "about 155° C.," the acid of commerce can scarcely be expected to be so much refined, however desirable it may be. In the end the prosecution was withdrawn, though the unfortunate chemist remains under the imputation of having supplied an impure drug.

The importance of manufacturing brands of salicylic acid free from cresotic acid may be judged by consideration of the relative proportions of the natural and artificial acid consumed in Great Britain and the Colonies. It is stated that of the whole quantity of salicylic acid used, 97 per cent. is the ordinary synthetic compound; 2 per cent. is the purified compound, and 1 per cent. the natural preparation sold at about six times the price of even the purified synthetical article.

PHARMACEUTICAL NEWS FROM GERMANY.

Prof. Koch and the Remedy for Phthisis: Temporary Discontinuance of the Experiments — The Strange History of Spermine Hydrochloride in Russia — The Berlin Pharmaceutical Society — The Commercial History of Jambul — The Testing of Glycerin — The Detection of Aceton in Urine — Adulterated Cotton Wool — The Specific Gravity of Bitter Almond Water.

I have previously spoken of the excitement produced, not only in medical, but in general circles, by the announcement on the part of Prof. Koch that he was working with what promised to be an effective remedy for tuberculosis. It is, of course, superfluous to dilate upon the conspicuous want for such a remedy in the northern latitudes of Europe, but it is the recognition of the dread character of the disease which makes men so eager to grasp at any remedy which it is even hoped may prove merely beneficial in the treatment of phthisis.

Prof. Koch declined to divulge the nature of the remedy until it had been thoroughly tried, and the experiments made in one of the wards of the Charité Hospital in this city were carried on with great secrecy. Prof. Koch worked in co-operation with his son-in-law, Dr. Pfuhl, but although they surrounded their researches with an impenetrable veil of concealment, yet, as is always the case, some inkling of what was going on crept out, and a short note on the subject appeared in a daily paper.

The result of this might have been expected. Prof. Koch was deluged with letters and questions from all quarters of Europe, and quite suddenly the experiments in the hospital were discontinued. This, in turn, gave rise to the most varied surmises, if not suspicions. Of course it is possible that the researches led to unfavorable results, though one would be reluctant to admit such an explanation. Of course it may be very probable that the continuation of the work in the Charité was made more difficult owing to the premature notice referred to. It is expected, however, that the investigators will not be easily discouraged; it is understood that the experiments will be continued in the near future in another hospital, the name of which will, of course, not be divulged.

Since the time when the researches of Brown-Sequard indissolubly associated his name with the so-called "rejuvenating essence," or injections of the spermatic secretion, the study of the subject has been steadily continued, and during the last few months attention has been attracted to the properties of *Spermine* or *Ethylenimine* $(C_2H_4)_2NH_2$ which is regarded as the active principle of the Brown-Sequard emulsion. With Spermine, or more exactly with the Hydrochloride of Spermine, the name of Prof. Poehl, of St. Petersburg, has become connected, and the latest news on the subject scarcely places the Russian scientist in a favorable light. It appears that whatever care was primarily expended in the production of the preparation in Poehl's laboratory has been so far relaxed that Dr. Fraenkel, who was engaged in the work with Prof. Poehl, says that he felt he could no longer associate himself with such a dubious undertaking, and consequently announced his intention to Poehl of leaving the laboratory. When actually withdrawing from the scene of his labors he took away with him a small quantity of the Spermine preparation and placed it in the hands of other experts for examination, and the result was not at all favorable to the reputation of Prof. Poehl. When the latter (who had been in Germany when Dr. Fraenkel left) returned to St. Petersburg, he brought an action against his late co-worker for taking away the Spermine, and again the result did not enhance the fame of Prof. Poehl, either as a scientist or manufacturer.

There is so much that tends to prove the value of Ethylenimine or Spermine as a powerful stimulant, that it cannot fail to excite regret that in the beginning of its career it should be prejudiced by such unjustifiable proceedings on the part of a worker who, from his high position and scientific reputation, was naturally expected to be most likely to produce a preparation of maximum purity. Fortunately the manufacture of the compound is being carried on in other countries by firms of established reputation, so that the ultimate destiny of this, one of the most interesting new remedies, is not likely to be much affected by the St. Petersburg incident.

Since the Apotheker Verein concerns itself principally with the business and social matters affecting its members, those of a scientific turn of mind feel that they are being to some extent neglected, and have therefore, in conjunction with other members of their craft, all more or less prominent in the scientific world, established a distinct association which is to be known as the "Berlin Pharmaceutical Society." The first meeting of this body took place on October 2d, and if subsequent meetings reach the same standard of excellence, an impulse will be given to pharmacy here which will well repay the founders of the Society.

The first paper was read by Dr. J. Holfert, and dealt with jambul, about which drug a considerable amount of confusion exists. At the International Medical Congress in Berlin, H. Helbing, of London, exhibited four different seeds, of which he stated that only one variety was the genuine article—a statement somewhat doubted by the German authorities, who professed to have never seen in commerce this seed termed genuine by Helbing. The author above named having carefully examined the samples submitted to him by Helbing, comes to the definite conclusion that the seed described by the latter is the genuine product derived from *Syzygium Jambolanum*, on which the reputation of the drug has been built up. The other specimens found in commerce were determined by Holfert to consist in mixtures of other species of *Syzygium* with irregular fragments of broken seeds of *Jambosa vulgaris*. As jambul is reported to have proved of much service in the treatment of diabetes, it is very unfortunate that there should be so much difficulty in obtaining it, and the conduct of those who, trading on the ignorance of buyers, are flooding the market with substitues of no value, is very reprehensible.

The ammonio-nitrate of silver test for glycerin which has been adopted in the new German Pharmacopœia, formed the subject of some notes read by Dr. E. Ritsert, whose chief purpose was to expose the fallacy of the statements made by some manufacturers to the effect that it was impossible to prepare glycerin answering the requirements. His own experience lead him to quite a different conclusion, and he further stated that perfectly pure glycerin is already an article of commerce.

Dr. Ritsert also furnished some information on the subject of aceton in urine; he had found this body to be present in certain cases, and suggested the following method of estimation. The urine is made alkaline, and treated with iodine which decomposes the aceton and throws down a precipitate of iodoform. This is collected, washed, and dissolved in alcohol containing a small percentage of nitric acid, and the solution is titrated with a decinormal solution of silver nitrate, iodide of silver being produced according to the equation.

$$CHI_3+3AgNO_3+H_2O = 3AgI+3HNO_3+CO.$$

7.87 c. c. of the silver solution are equivalent to 0.1 grain of iodoform. A similar method can be employed for estimating the small amount of iodoform in gauze dressings and bandages.

A new adulterant of cotton wool has been unearthed by Dr. Link. That gentleman had frequently noticed that the wool medicated with corrosive sublimate deteriorated, owing to the decomposition of the sublimate, and endeavored to find out the reason. His researches show that what is called "pure" cotton wool contains stearic acid, which is employed to accentuate the peculiar crispness which is so characteristic.

Distillers of essential oil of mustard who use copper stills, find that the quantity of oil obtained is not so large as it ought to be, since a portion is decomposed, producing a layer of copper sulphide on the inside of the still. They will be glad to learn that, according to Dr. Hirsch, preliminary treatment of the still with ammonium sulph-hydrate, remedies this defect, as the production of sulphide does not then take place at the expense of the oil.

A paper was communicated by Dr. Thoms which contained some interesting calculations respecting the specific gravity of the bitter-almond water of the German Pharmacopœia. This physical factor is given in the new Arzneibuch as between 0.953 and 0.957, and it was stated by the author that this limit does not include an aqua amygdal, containing 25 per cent. of alcohol, as ordered. A bitter-almond water made according to the Pharmacopœial direction, containing one-fourth its volume of alcohol, will have a specific gravity of 0 371. That an error must have crept into the official statement of the specific gravity, is manifest from a consideration of the fact that a mixture of water 75 parts, in alcohol 25 parts, has a specific gravity of about 0.965, and it is a matter of course that the dilution of a liquid specifically heavier than water (as is the case with the distillate from the almonds, which contains benzaldehyd and hydrocyanic acid) with alcohol, must produce a mixture of higher specific gravity than 0.965.

Readers will see that these meetings promise to be rich in results of real practical value, if, as already said, succeeding papers are up to the same level.

NEW YORK LETTER.

Nov. 9th, 1890.

Since my communication of last month there has been a decided change for the better in the condition of trade in this centre. Orders have been large and more frequent, and there has been maintained a steadiness of prices which perhaps could hardly be accounted for under this active condition of affairs, but for the fact that most all the prominent articles have been ruling at such a very low range of prices that there seemed but little room for decline.

There are strong evidences on every side, that the jobbing druggists, of the East at least, have not during the past year been making satisfactory profits. Perhaps no single circumstance could point to this fact more strongly than the decision of Lazell, Dalley & Company, of New York—one of the most prominent jobbing houses of the East, if not the most prominent—to the effect that as business has proven unsatisfactory, they will liquidate and retire from the field. It is needless to say that this has been a very great surprise, as none have enjoyed a higher reputation for integrity and care than this very house. It is but fair to conclude that if business had been satisfactory and paying a proper income on investment, this old house would never have withdrawn from the market.

It is rumored also, that another prominent jobbing house of N. Y. City is about to follow in the footsteps of Lazell, Dalley & Co. During the month announcement has also been made that a prominent Philadelphia jobbing house, one of old standing, is about to withdraw from business, and rumor has it, that one of the jobbing houses in the western part of the State, intends also to retire. These developments are a little singular and surprising, as the jobbing houses of the East have now become so few that one would think they could so manage matters between them, as to sustain proper prices and secure better profits. The facts, however, seem to the contrary, and if all these rumors prove correct, competition will be reduced just in proportion to the number of retiring houses.

I will now proceed to review a few of the more prominent articles of trade, for the benefit of your readers.

Opium.—Concerning the price of this article, almost chaos has prevailed during the month. The sudden precipitating upon the country of the new tariff bill, unsettled values greatly, and so far as opium is concerned, handlers of the article hardly knew how to act. The sharp competition in the article, has reduced its price to almost the full benefit of the reduction provided for high-test natural opium in the new tariff law.

Morphia.—So far as this article is concerned, no steps have as yet been taken to reduce its price, although this must soon follow.

Quinia.—Despite the efforts of our domestic manufacturers and the principal importers to sustain prices, they have utterly failed, so that quinine can now be bought upon this market at as low figures as at any time for many years.

Menthol.—Has advanced about 33⅓ per cent. Advices from Japan are to the effect, that the crop of the oil from which the menthol is prepared, has been this year exceedingly light. On the other hand, the demand is greater than for a long time past,—the result is, this heavy advance in value. We do not think that it has as yet reached its highest value, but that when the cold weather comes on, and the active winter demand for the article arises, a still greater enhancement in value must take place.

Oil of Peppermint.—It is generally rumored that the supply of oil of peppermint is very small,—whether such is the case or not, it is rather difficult to determine. On the other hand, the new tariff law has placed so high a duty on imported oil of peppermint, that Japanese oil is almost excluded, and a very high range of prices has prevailed for the article, without any indication of decline.

Arnica Flowers.—Authentic reports reach us to the effect that the new crop has been almost a complete failure. Added to this the very light supplies that were held of last year's crop, the result has been that it has doubled in value and is still advancing. Buyers should be warned that the present high price on these flowers has brought upon the market a spurious variety which, if arnica flowers at all, is so inferior that care should be taken on the part of purchasers to assure themselves of supplies.

Jalap, and Mexican Sarsaparilla, seem again to be arriving in fuller quantities, with a consequent slight reduction in value. We predict that before the present month is past, supplies will be sufficient to bring prices up again to something like a normal level.

Ipecac continues scarce and high, with no prospect of change.

Manna.—The large flake manna has advanced still further in price. The small flake has maintained itself well, and. in view of the very high price for the large flake, finds a large and ready outlet.

Cod-liver Oil.—The Norwegian variety has advanced about $1.00 per barrel since my last writing, and there is every reason to suppose that with the advent of cold weather it will advance at least $2.00 to $3.00 more.

Cocaine has advanced about 10 to 15 cents in value. This is owing to the short supplies of leaves, and to a realization on the part of manufacturers that the salt has been selling too low, affording them really no profit. Higher prices still may be expected.

Resin Scammony.—The report referred to in my last communication, to the effect that the present year's supply of scammony was light, seems to be fully confirmed, and the price of the resin has been fully maintained with an upward tendency.

THE METRIC SYSTEM AND THE SEVENTH DECENNIAL REVISION OF THE U. S. P.

We quote from a communication from Prof. H. M. Whelpley, M.D., Ph.G , the following sentiments regarding the metric system, which deserve the consideration of all pharmacists:

It is probable that in less than two years the seventh decennial revision of the Pharmacopœia of the United States of America will be in the market and ready for the pharmaceutical and medical professions. The progressive druggists of the country will adopt it as their law and guide in the manufacture of pharmaceutical preparations, and the identification of all official substances.

Among the new features of the revised work will be the adoption of the metric system of weights and measures in the manufacture of preparations. The system of "parts" in the previous revision was more conveniently handled by the metric system than any other, but the new work will have the decimal system itself prescribed.

When we come to realize that the words "milligram," "gram," "cubic centimeter," "kilo," and "liter," are all that a druggist need learn, it is strange that any one should for a moment object to the system on the score of the language. In this connection I must quote from a Committee of the American Association for the Advancement of Sciences, where it says: "For the use of these professions (medicine and pharmacy), six lines contains all that is necessary," as follows:

1,000 milligrams make 1 gram; 1,000 grams or cubic centimeters make 1 kilo or liter; 1,000 kilos make 1 ton; 65 milligrams make 1 grain; 15½ grains make 1 gram; 31 grains make 1 ounce troy.

Book Reviews.

Latin Grammar of Pharmacy and Medicine. By D. H. Robinson, Ph.D. Cloth; 12mo; pp. 271. Price, $2.00. Published by P. Blakiston, Son & Co., Philadelphia. For sale by Geo. S. Davis, Detroit.

This work is the outgrowth of experience, and designed expressly to meet the needs of pharmacists deficient in knowledge of the Latin language, as well as their students and apprentices. The author truly says that experience in teaching clearly shows that students who have not studied the language are at great disadvantage compared with those who possess a fair knowledge thereof.

They were found to be much slower in understanding the terminology and securing a firm grasp of the subject presented; and without a clear knowledge of terms, satisfactory progress was impossible. To remedy this difficulty, all pharmacy and first year medical students were required to study Latin, using the same text-books as the classical students. The result was a great improvement, but not as great as was anticipated; something was found to be still lacking, for though the student made fair progress in learning the language, he of course made no progress in learning the peculiar terminology of his subject.

The author then sought a text-book suitable for the purpose, but none could be found, when at the suggestion of others, and solely from his own experience and observation, the volume before us was prepared. With no data to guide, Prof. Robinson has succeeded in making a practical work—has fully lived up to his motto: "A minimum of theory with a maximum of practice." The questions to be answered in Latin, carried through many lessons, will be found very useful in enabling the student to master a large vocabulary early in his study. Besides, the volume contains for translation many Latin prescriptions and formulæ.

No pharmacist or physician at all deficient in knowledge or weak in his memory of Latin, can afford to be without a copy of this work.

Address in Hygiene, by Thos. J. Mays, M. D. Reprinted from the Transactions of the Medical Society of the State of Pennsylvania, June, 1890.

This is a very carefully prepared inquiry into the truth or falsity of the contagion doctrine. The author starts out with the axiom that—other things being equal—"those who are most exposed to a contagious disease are most liable to contract it." This principle has been found to hold good in a number of diseases, such as small-pox, measles, etc, but contrary to the generally accepted belief, does not hold true in consumption. We had elsewhere from another source seen this statement made, but the paper before us is not simply content with asserting that phthisis is not a contagious disease, but brings a very strong and numerous array of facts and figures to prove the right to say so. We have not space here to quote the statistics adduced as proof, but merely notice the fact that the experience of special hospitals for this disease, such as the Brompton Hospital, London; the Friedrichshain Hospital, Berlin; the Consumption Hospital, Görbersdorf, etc., is brought forward to show that consumption is not a contagious disease.

Secret Nostrums and Systems of Medicine. Compiled by Charles W. Oleson, M.D. Cloth; 12mo; pp. 206. Published by Oleson & Co., Chicago.

This is quite an extended *exposé* of patent nostrum manufactures indigenous to the United States, and we wish every family could possess a copy, as it would tend to decrease largely the sale of pernicious products. There is probably no evil in connection with pharmacy, as related to medicine, so great as proprietary and patent products, and patent operations for the relief of hæmorrhoids, hernias, etc. The Brinkerhoff method of treating piles, the Rorick method—the latter being only a modification of the former, its author being an undergraduate pupil of Brinkerhoff—and one or two other methods of like character, are thoroughly exposed, as they should be, and also the fallacy of so-called rectal ulcer treatment.—More practical common-sense information can be had during five minutes' perusal of Dr. Chas. B. Kelsey's little volume on Hæmorrhoids (Leisure Library Series) than can be had in the most comprehensive study of all the "methods" combined. We cordially commend the book to physicians, pharmacists, and their patrons, alike.

Report of the Royal Botanical Gardens (of Trinidad) and their Work for 1889. By J. H. Hart, F. L. S., Supt.

Although the world has larger, wealthier and more pretentious botanical gardens than those of Trinidad, it is doubtful if it has anywhere one where the work is more enthusiastically carried on, or where practical results are more closely sought. The relations between these Gardens and the agricultural interests of Trinidad appear to be peculiarly close, and the association is clearly indicated in these reports. During the year reported, satisfactory progress has been made in all departments. The herbarium possesses 7355 mounted sheets, and has come to be useful for the purpose of comparison, especially for Trinidad plants. Many plants and packages of seeds have been distributed to correspondents both in and outside of the Islands, and sugar-cane plants have been raised from seeds, which report has already been referred to in these columns. The chapter on Economic Plants is long and interesting, and covers experiments in the cultivation of the principal fruits and edible seeds of the Island. Four beautiful full page illustrations adorn the volume.

Kew Gardens' Bulletin; Nos. 44 and 45; August and Sept., 1890.

The first of these contains an interesting paper, or rather collection of reports, on Natal Aloes. The source is discussed and the method of preparation described. The manufacture of this variety of aloes appears to be quite discontinued, and its source is believed to be *Aloe ferox*, Mill., although this point will probably never now be definitely settled.

No. 45 contains a very interesting and systematically arranged list of the Economic Plants of Madagascar, with their uses, native names, etc. The list is accompanied by an index of the native and scientific names, thereby rendering the list valuable as a reference.

Reports and Recommendations of the International American Conference. Washington, 1890.

These cover a very wide range of subjects from International arbitration and extradition of criminals to patents and trademarks, and "a uniform system of weights and measures." The last mentioned is probably interesting to our readers in view of the stand we expect the next edition of the U. S. P. to take in this matter. We quote the recommendation as adopted by the Conference:

> *Resolved*, That the International American Conference recommends the adoption of the metrical decimal system to the nations here represented which have not already adopted it.

It is worth knowing in this connection that the population of the world which does not recognize the metrico-decimal system of weights and measures is now in the minority according to the showing of this report.

Grasses of the Southwest—Plates and Descriptions of the Grasses of the Desert Region of Western Texas, New Mexico, Arizona and Southern California. Part 1. By Dr. George Vasey, Botanist U. S. Dep't. Ag., Div. of Bot., Bulletin No. 12.

This is one of the handsomest publications ever issued by our Agricultural Department. 50 species are figured in this part and each full page plate is faced by a carefully drawn description. Appended to the technical descriptions are notes on the economic value of the species. The drawings can hardly be excelled.

Index to Vols. VIII-XVI of the Bulletin of the Torrey Botanical Club. Compiled by E. G. Britton.

This pamphlet of 51 pages will be appreciated by all American botanists, among whom such an index has long been a great desideratum. It may be had by remitting 50 cents to the editor of the *Bulletin of the Torrey Botanical Club* at Columbia College, New York. The announcement is also made of a 25 per cent. reduction on all orders for full files of the *Bulletin* received before Jan. 1.

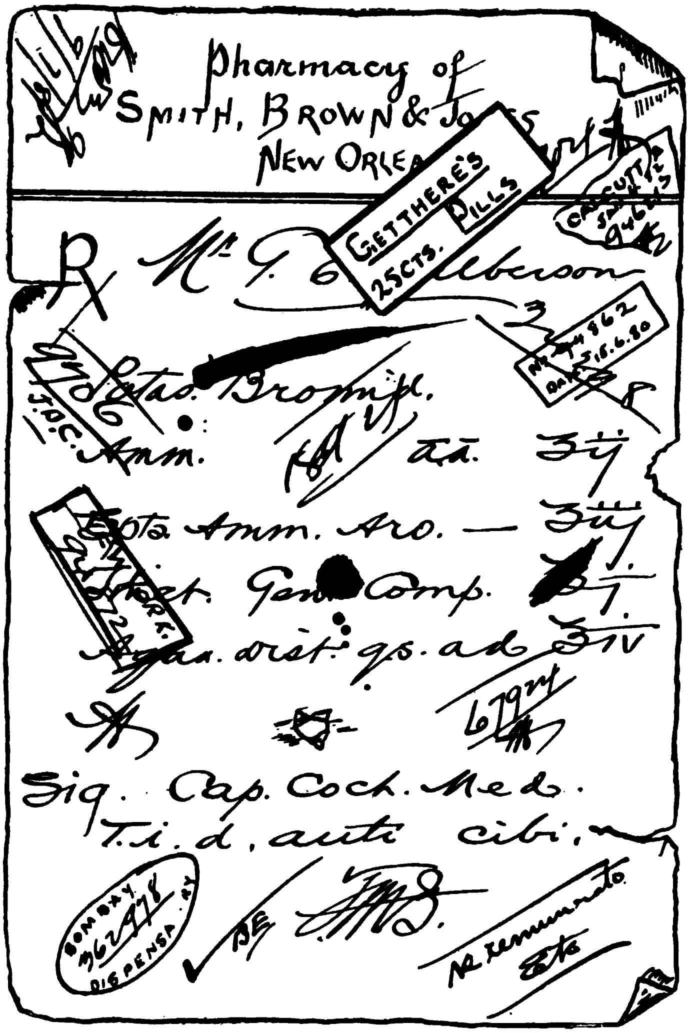
Illustrated Price List of Microscopes, Microscopic Apparatus, and Optical Instruments, manufactured by Joseph Zentmayer, Philadelphia, Pa. 12th edition.

This is a pamphlet of 40 pages, and well illustrated.

Facetiæ.

THE LAMENT OF THE REPEATED PRESCRIPTION.

I had only served the first year of my apprenticeship in a town in Western Canada, when an epidemic of typhoid fever visited us, and ere a month had passed there was scarcely a family which was not affected either directly or indirectly by its ravages. Business was almost stagnant, social life was dead, and the faces of friends one encountered in the street were constant reminders of passing bells, crape, and the funeral cortege. Of course, it goes without saying that we drug clerks were worked to the very last limits of endurance. Day and night work were so continuous that it was by no means an unusual occurrence for us to fall asleep while standing at the dispensing counter. This latter fact may explain to you, Galenic reader, the strange thing I am about to recount, although, bear in mind, I would never admit that I was in any other condition than broad awake when it happened.



It was the evening of September 4th, 1883, about ten o'clock, that, wearied with a long day's work, I sat at the desk filing the prescriptions which had been dispensed that day, and checking each stage of the operation with a yawn which threatened to dislocate my jaw. Presently I came across a prescription whose veteran, travel-stained appearance at once chained my attention. I have endeavored to reproduce it for your benefit, but as the sketch is made from memory, it quite naturally falls short of the original. What a traveled personage it was! How it had sped on its journey from tropic to zone, from continent to continent, from ocean to ocean, sniffing the ambrosial odors of orange and magnolia in our sunny South, strolling through the lemon and citron groves of France and Spain, melting at Marseilles, freezing on Mont Blanc, eaves-dropping at St. James' Palace, conspiring at St. Petersburg, endorsing Budda, doubting Brahma, and worshipping Confucius! "Around the world in eighty days!" What were such a feat compared with the adventures of this hoary-headed prescription of the "Wandering Jew" persuasion? Was it simple fancy that made me believe this battered rambler trembled in my hands? Was it the hallucination of an over-taxed brain that caused me to hear a sigh issue from one of its many rents? Perhaps it was, but there was no fancy about what followed. Trembling slightly, sighing deeply, the prescription opened the tear on the left-hand side, just near the ℞, and said: "Oh, Lord! when am I going to get a rest? Say, old fellow, if you have any respect for age, or your heart is touched by deep suffering, you will take me down to the bridge, tie a pestle to me and drop me over; there at the bottom of the silent river may I enjoy that rest which has been denied me since that fateful morning when young Culberson, of New Orleans, sought the aid of medicine to help clear his head of the uncertainties induced by the celebration of his majority." Here the prescription was so overcome by the memory of its sufferings that, in a more than usually painful sigh, it tore the rent half an inch deeper. This only served to increase its garrulity, for in a voice and with an air of bravado ill becoming such a veteran it continued: "Yes sir! Since that day, four years ago, I have lived a life of empty sham, traveling under false pretensions, swindling the medical profession out of their just dues, getting pharmacists into no end of trouble, and raising old Harry generally. You see, I managed to fix young Culberson all O. K., and he was loud in his praise of my qualities, consequently when his friend Leut. Billings sailed for Buenos Ayres, he insisted upon taking me along as a necessary aid on certain occasions. The first night I was on board, the Captain was taken with a severe chill and borrowed me. He kept me two days and then kicked me out of his cabin, using most unsavory language as an accompaniment (that hole near '*med*' is where his foot pierced me). The first-mate found me lying in the passage and took me to his cabin, where I acted as a liniment for a sprained ankle for a week. From there I was stolen by one of the Malay sailors, who employed me as a gargle for sore throat. I remained in the possession of the sailor till we reached

Rio de Janeiro. Here he obtained leave to go ashore, got into a street fight, ran his knife through the heart of a citizen who happened to be in his way, and was promptly arrested. He was given a summary trial, a fatal sentence, and prompt execution. I was found in the pocket of his leather shirt, and taken charge of by the sheriff. The sheriff at once appointed me to assist his mother-in-law, who was suffering from an ovarian tumor. I did the best I could with the old lady, but she soon grew to mistrust me, and I was ordered to mend the broken leg of the young son and heir who had been thrown from his horse while hunting. It was the same old story! I, who was originally intended to palliate the ill-effects of a macrocosmic "jagg," was here expected to take a hand at healing almost every kind of ailment. You can easily understand that the unusual strain soon told upon my constitution. I was pronounced N. G. (whatever that is), and upon the luckless head of the physician whose name made me authoritative was heaped *anathema maranatha*. About this time the sheriff quarreled with his friend and neighbor Signor Cornezuelo de Centeno. Interested parties at once set about closing the breach thus formed, and with apparent success. The sheriff professed a reconciliation, but deep down in his heart treasured guile. With tears running down each other's back, the two Dons bridged the chasm; and the sheriff, to show the sterling quality of his friendship, as he said, insisted upon Signor Cornezuelo de Centeno accepting me as a propitiatory offering. I was then taken to the home of the Don, and four days later took an active part at the *acouchment* of his wife—although I protested at the time, saying that her husband's name should help any ordinary case of that nature—I remained in the Don's family about eight months, taking part in every family physical trouble, from a burn to Bright's disease, when old Corne. was appointed minister to the court of Spain, and I, of course, accompanied him. I do not know just how it happened, I have always held that the Spanish pharmacist made some mistake in putting me together, be that as it may; Signor Cornezuelo de Centeno's recall was demanded, and it was rumored that he had attempted to poison the Infanta. Thus was the Sheriff's revenge complete.

A Jewish rag-picker found me in the alley back of the palace, placed me among his treasures, and the following year took me with him on a pilgrimage to Jerusalem. There, after being blessed by an old Rabbi, on the site of the ancient Temple, I was donated to a colony of lepers by this generous Hebrew from Madrid.

Here I thought my wanderings would cease. I had heard that nothing ever got beyond the walls of this corraled curse, but alas! I was mistaken. Scarce a week had passed in this sanctuary, this sepulchre of the living dead, when, one night a drunken Arab, too lazy even to catch leprosy, managed to scramble over the wall in his search for something drinkable, found me, drank half of me, and pocketed the rest. He made his escape before the authorities could capture him, and next turned up at Alexandria. But I must hasten. I sailed from Alexandria, visited Bombay, Calcutta, Hong Kong, Pekin, Yokahama, from there sailed for San Francisco, then fell into the hands of a miner, and for nearly a year was the only prescription in a mining district of fifty square miles.

When Sparling, the person who brought me here today, left the mines, he took me along, and now is going to force me to help his family through an attack of typhoid, on the strength of my ability to straighten the miners after the entanglements produced by "mountain dew." Oh, sir, for heaven's sake! grant me rest! Tear me, burn me, drown me! do anything you please, but do not assist in continuing a farce that is a disgrace to two professions and a libel on human intelligence. Just quietly loose me and then lie about it (that will not be hard for a drug clerk), and a myriad shades of worn-out ℞'s will rise up and call you blessed." The suffering wanderer ceased speaking, the upper right hand corner partly unfolded, showing another number, the long rent in the left side trembled spasmodically a few seconds, then all was still. In the file of prescriptions for Sept. 4th, 1883, in a certain pharmacy in G——, appears a neat, clean copy. In a scrap book containing the curios collected in a decade of dispensing work, appears the corpse of a played-out prescription. Since the night when I listened to the touching recital of the repeated prescription's trials, I have done all in my power to discourage a practice at once dishonest, dangerous and ridiculous.

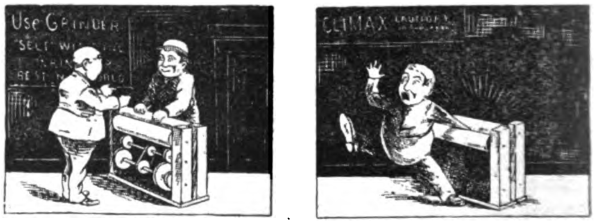
Adolphus Nother.

OFFICE OF THE "BOOM CITY HOWLER."

Office Boy—Please, sir, there's a man outside who says he'd like to have a job on the paper

Editor-in-Liquor—Well, we ain't got no (hic) job for him. Tell him (hic) our staff ish full (hic) just now.—*Munsey's Weekly.*

AN ILLUSTRATED TESTIMONIAL.



Messrs. Grinder & Co —I purchased one of your self-winding wringers—

The wringer worked very rapidly, and I became so attached to it—

That I refused to be separated from it, even for an instant—

Having thoroughly tested your machine, I will never use another
—*Light.*

Abstracts and Translations.

Kobert on Ergot.

There are few drugs which have the complexity of ergot, and none which modern pharmacy has made so little impression upon as that useful drug. A year or two ago we had occasion to refer to a dispute which was then creating some attention, and it was at that time pointed out that probably no single body contained in ergot could be said to produce the complete physiological symptoms of the drug. Some fresh light is thrown upon the subject, especially regarding pharmaceutical preparations of ergot, in a paper by Prof. Kobert, of Dorpat, one of the greatest living authorities on the subject. According to Kobert, there are five principles which have been claimed as the active principles. He has made clinical and physiological experiments with some of them, and the purpose of this note is to convey briefly the results at which he has arrived. First in regard to these principles. The first which may be noted is the *Ergotinic acid* of Zweifel, called *Sclerotinic acid* by Dragendorff, and by Wenzell *Ergotic acid.* This body, according to Kobert, has little or no action upon the uterus, but often produces disagreeable effects, and is extremely expensive. Next, we have the *Picrosclerotin* of Dragendorff and Podwyssotaki, and the *Isocholin* of Brieger, but nothing is known concerning the therapeutical action of these. A fourth body is *Sphacelinic acid*, which is an acrid and poisonous resin. It certainly produces part of the medicinal effect of powdered ergot, but has not yet been tried in the pure state, and may with advantage, be replaced by the body which Kobert calls *Cornutin.* This is the most active constituent, and can be easily extracted from ergot in the following manner: The drug is exhausted by means of water acidulated with hydrochloric acid, the aqueous solution nearly neutralized by sodium carbonate, then evaporated in vacuo at a very low temperature to a syrupy consistence, and treated with 95 per cent. alcohol. The alcohol is removed from the liquid after filtration by careful distillation, and the newly dry product treated with anhydrous ether, which removes any ergotinin present. After making the residue alkaline with sodium carbonate, it is treated with acetic ether, and the solution of *Cornutin* so obtained shaken with water containing a little citric acid, which removes the *Cornutin* in an almost pure state. This process is then repeated, and the *Cornutin* dissolved in acetic ether, the solution concentrated, and finally the substance precipitated in the pure state by means of anhydrous ether, which retains in solution any remaining traces of ergotinin. *Cornutin* so prepared will, if kept dry and not exposed to light, remain unchanged. Kobert has kept some for three years, and it has not suffered any deterioration.

A very interesting part of the monograph is that in which the author criticises the various official and popular preparations of ergot. He is quite correct in saying that the pharmacy of ergot is at present in a state of "wild confusion," but it is noticeable that two main lines are recognized: In the one case it is admittted to have only one active principle present in a pure state; in the other the desire seems to be to include every constituent which is believed to have any medicinal effect. All ergot extracts in European Pharmacopœias are based upon the process first used by Bonjean in 1842—viz., exhausting the drug with plain water; but Kobert thinks that the fluid extract, prepared according to the directions of the United States Pharmacopœia, approaches, when fresh, most nearly to the natural drug; and it so happens that this is the only one which has a hydrochloric acid menstruum. This process the German Pharmacopœia has also recently adopted. But no matter how the extracts are made, or what they are called, they all agree in losing their activity in a very short time. Kobert examined a great many of these extracts, and found that in as short a time as nine months they became practically valueless. Neither sterilizing nor the use of antiseptics can protect a watery preparation from change, as it is due not only to fermentation and the presence of bacteria, but to independent chemical decomposition, partly of the nature of oxydation. He has also arrived at the conclusion that water is the worst solvent that can be used, as the active principles decompose in it very rapidly; indeed, the strength of an extract depends very largely upon the length of time during which it has been in contact with water—a fact which many have doubtless observed who have had complaints about the failure of liquor ergotæ which has been in stock some time. The only way, according to Kobert, to obtain a reliable extract containing the chief active principles *Cornutin* and *Sphacelinic acid*, is to treat powdered ergot with petroleum ether in order to remove oil, and then exhaust with rectified spirit. This tincture is then evaporated until 15 grains of it represent 150 grains of the ergot employed. Kobert in his paper gives results which he has obtained clinically with many liquid extracts, and also with ergotin pills, and in every instance they failed to produce anything like the effect which freshly-powdered ergot produced. Amongst these was the British Pharmacopœia liquid extract, which was found to be unreliable; while several kinds of ergotinin were also comparatively valueless for the reasons stated. Hitherto ergotin has generally been made from aqueous infusions or percolates, by evaporation, precipitation of earthy phosphates and albumen with alcohol, and evaporation to pilular consistency. Kobert believes, however, that all such preparations are wrong in principle, and that if we were to produce an ergotin showing the minimum amount of change, his alcohol process must be employed. But he repeats the advice which so many physicians have given—that to ensure prompt action, and exclude possibility of failure, freshly-powdered ergot should be administered. And not only must it be freshly powdered, but it should be not more than a year old, as after a year the drug contains but small quantities of *Cornutin* and *Sphacelinic acid.* Various proposals have been made from time to time regarding the preservation of the drug, and among them the extraction of the fluid oil was regarded as perhaps the most important. Seven years ago, Mr. John Moss advanced proof of this, in a communication to the British Pharmaceutical Conference, wherein he showed that ergot, freed from its oil by hydraulic pressure, retained its therapeutic properties for six years. Kobert entirely disagrees with this view, with, however, the reservation that if the powder is kept absolutely free from water, activity may be preserved; but he prefers to keep the drug whole, in air-tight vessels, and perfectly dry. The rules which he lays down are indeed somewhat stringent, and he is inclined to be opinionative; but for all that his monograph shows good work, and the advice which he gives regarding the preparation of the liquid extract is of the highest value.—*Chemist and Druggist.*

Toxicity of Male Fern.

According to the *Pharm. Post*, of Aug. 10th, 1890, the *Wiener Klin. Wochenschrift*, of recent date contains an article by Prof. Dr. E. von Hoffmann, reporting a case of fatal poisoning as a result of the administration of 10. grammes of ethereal extract of male fern in 12. grammes of purified honey (directed to be taken in four doses) for the cure of tapeworm. Coffee, cognac and other means were employed for the resuscitation of the patient, but in vain.

In the discussion respected the actual cause of the child's death, Prof. Hoffmann stated that in all pharmacological works, extract of male fern is given as a harmless and innocent remedy, causing vomiting, at the worst, and the distinguished specialists in children's diseases, Prof. Monti and Prof. Wetterhofer, administered even to sucklings 5.-8.grammes, the latter even 15.grammes without observing any symptoms of poisoning. Prof. Hoffmann adds that the strength of the preparation may very probably vary in accordance with the age of the crude drug and the locality of the plant, which produce very considerable disparities in the action of various extracts, and states, finally, that the extract of male fern should be prepared in the same manner in all the pharmacies, strictly in accordance with the directions of the Austrian Pharmacopœia. He has observed the medicament to exhibit an unusual action in other patients. Prof. H. accordingly concludes that the fatal effects in the case reported are not attributed to the general character of male fern, but rather to the morbid conditions of the child's organism, and particularly, that no blame can attach to the physician in attendance.

In connection with the foregoing, it is to be observed that of late years a number of reports have appeared on the symptoms of poisoning which have followed the administration of male fern., Some have been published by M. Freyer, in the *Therapeutische Monatshefte*, 1889, p. 90. In 1882, a report appeared in the *Lancet* on a case of poisoning produced in America by the administration of 43.2 grammes of extract of male fern, which had been erroneously administered to a man thirty years of age. There resulted, cathartic action of the bowels, vomiting, pain in the stomach, cramps, and death 20 hours after taking the medicine. According to Spencer Cobbold, jaundice resulted from the administration of 7 grains to an adult, and mental aberration from 3.6 grains given to a boy 7 years old. Apping observed in his own case, as a result of 4. grammes of the stronger preparation, eructations, cold perspiration of the brow, dizziness and trembling of the whole body, then vomiting, diarrhœa and finally, insensibility lasting about an hour. As a result of 20 grains, H. Mencke discovered albumen and cylinders in the urine; Bayer observed, after giving 17. grammes each of extract male fern and extract pomegranate bark to a woman of 27, vomiting, diarrhœa, weakness, unconsciousness, and deep sleep lasting 30 hours.

Other cases are cited to show that the extract of male fern is not so innocent a preparation as has heretofore been believed, and that its action deserves further study.

According to Freyer, not only the age of the plant, but also the consistency, or rather, the vehicle, of the extract is of importance. He cites the fact that in the experience of Quirll, the extract, triturated with Provence oil, acted more rapidly than the pure preparation. In the commentary on the Austrian Pharmacopœia, the suggestion is added, with respect to extract of male fern: "Shake before using," and as a result of new investigations, the sale of the extract to the public is forbidden.

In the use of the former official alcoholic extract dangerous results were not observed, and it is possible that such results are due to the visibly greater wealth of the ethereal extract in active constituents.

[According to Kremel, the alcoholic extract of male fern of the Austrian Pharmacopœia, VI, is, indeed, laden with inert extractive matter and sugar, but is richer in filicic acid than the ethereal extract of Austrian Pharmacopœia, VII.]

Dr. H. Heger, the distinguished editor of the *Pharmaceutische Post*, states in his comments on the foregoing that the extract of male fern has been found harmless in many thousand cases, and has been well borne by children in quantities of 10–15 grains, but, on the other hand, in isolated cases, it has produced intoxication and death when very much smaller has been given. Whence this difference?

Idiosyncrasy undoubtedly plays a great rôle in the action of most medicaments. Nevertheless, Dr. Heger does not believe that this will account for the striking phenomena observed, any more than will the assumption of Freyer that the consistency and the vehicle of the extract are of importance. Dr. Heger regards the matter as of great weight to pharmacists, and holds that there is variation not only in different preparations, but also in different layers of the same preparation.

The the third volume of the Commentary on the Austrian Pharmacopœia, edition VII, says of the official ethereal extract of male fern: "It contains an ethereal and a large quantity of fatty oil (filixolin); further, resin, filico-tannic acid, and filicic acid, the latter separating out in time in the form of a kernelly, crystalline mass, for which reason the extract must be stirred before using." But the filicic acid, which separates off on permitting the extract to stand, is regarded as the tænicide active constituent of this preparation. What terrible consequences may accordingly result from the simple circumstance that this or that pharmacist does not properly shake the container of the ethereal extract of male fern before sending it out, or before pouring it into a smaller vessel.

The importance of agitating the contents, which, according to the foregoing, may be a matter of life and death, does not seem to have been anywhere properly emphasized as yet.

If a container of ethereal extract of male fern is allowed to stand quietly for a considerable time, and the extract is sent out without shaking, the last 10. grammes of this extract must contain almost the whole quantity of filicic acid which was at first evenly distributed through the extract.

For example, in a bottle containing 200. grammes, this would impart a twenty-fold activity to the last 10. grammes, if the filicic acid be completely deposited. This is not to be taken for granted, but in such an event, 4. grammes of this extract residue might develop a toxic action, while 20. grammes of the first layers of the same extract would scarcely effect the expulsion of a tapeworm.

The individual constituents of the male fern, and particularly the filicic acid, should accordingly be made the subject of further investigation.

Perhaps it would be more desirable to discard the male fern extract altogether and use the pure filicic acid, as soon as the action of the latter shall have been accurately determined by investigation, for there can be few preparations in Austrian pharmacies, varying so greatly in their action as the extract of male fern (not only the age of the root, but also the age of the extract, the mode of preparation and many other things affecting the product). The preparations, formerly so numerous, which hold their active constituents, not in entire, but only in partial solution, have almost disappeared from the modern pharmacy.

The alcoholic extract once officinal in Austria, frequently proved perfectly inert, and was even less homogeneous than the present. With the ethereal extract, however, we have had the same experience. One of my friends is a country practitioner, and on leaving the Vienna hospital, where he had had great success in the use of male fern, was greatly disappointed in the effects of the medicament as supplied to him by the country apothecary. He was finally obliged to have recourse, through the intervention of friends, to his original source of supply in Vienna, and found that the Vienna apothecary was in the habit of drying the rhizome of the male fern promptly upon gathering *in the autumn*. He then reduced it to a coarse powder and poured ether over it, placing in a percolator that quantity which was to be worked up at once into extract, and the remainder in bottles which were stored in the cellar until the first stock of extract was exhausted, whereupon it was treated like the first portion. In this simple manner he was able to maintain the uniform character and handsome green color of the extract.

We have added this information as of profit to our readers, for it shows how variable in action is the extract of male fern, and how many circumstances, aside from age and locality of the plant, may affect the activity of the preparation.

Perhaps the foregoing will prompt various pharmacists to devote greater attention to the preparation, storing, and distribution, of this extract. It is specially desirable that the proportion of active ingredients in the extract be more frequently determined, and the individual constituents (ethereal and fatty oil, resin, filicotannic acid and filicic acid) isolated, in order that investigations respecting their action may be instituted. This would naturally be the task of the pharmacologists.

At all events, the preparation deserves thorough study.

Sulphate of Cinchonidia.

When quinine was held at extravagant prices in this country several years ago, may attempts were made to introduce substitutes for it in the shape of its allied alkaloids. Most physicians were successful enough with these substances, but just as soon as quinine became cheap, the use of it was at once resumed. Of late years we hear nothing of cinchonine, quinquinia, dextro-quinine, and numerous others of the succedanea formerly in vogue.

A French physician, Dr. H. de Brun, of Beyroot Syria, has, however, recently taken up the study of the sulphate of cinchonidia in a very serious and scientific spirit, and brings forward facts which will, he thinks, make a great revolution in the general prescription of the cinchona alkaloids. Dr. de Brun is Professor of Medicine in the College at Beyroot, and physician to the French Hospital and General Dispensary. He has had abundant opportunity of studying the comparative effects of quinia and cinchonidia, for malaria in all its forms is very prevalent.

With regard to the use of quinine; Dr. D. Brun found it sufficiently efficacious, but he not very rarely met cases in which toxic symptoms were produced. He states also that there is very great prejudice against the drug among the Syrians, on account of the tinnitus, deafness, and other unpleasant symptoms of cinchonism. Besides all this, the price of quinine is such as to prevent its general use in the Dispensary and among the poorer classes.

Dr. de Brun was led to select cinchonidia as a substitute for quinine not only on account of its cheapness, but because of the recommendations of previous observers, such as de Segrais, Weddell, Bourru, and Gubler, the last of whom states that a hypodermic injection of three grains of cinchonidia is equal in efficacy to one or two grammes of quinine by the stomach.

A great deal of quinine now comes from bark grown in Ceylon and Java. These barks are very rich in cinchonidia, for which there is hardly any market. Hence the price is very low. Quinine costs about fifty cents an ounce. Cinchonidia costs (in Syria) only seven or eight cents an ounce; in this country sixteen or seventeen cents.

Dr. De Brun reports in detail (in the *Revue de Médecine*, September, 1890) the histories of fifty-eight cases in which cinchonidia was used. The patients suffered from quotidian or tertian ague, with, in many cases, the classical signs of subacute or chronic malarial poisoning, also from larvated forms of ague with neuralgic attacks. Some of the patients had already been treated unsuccessfully with quinine.

The conclusions reached are that sulphate of cinchonidia, given in the same doses as quinine, combats the acute accidents of impaludism just as well as quinine. The drug is of equal value to quinine also in malarial cachexia, anæmia, enlarged spleen, and visceral congestions; and in malarial neuralgias. Sulphate of cinchonidia is successful in some cases after quinine has failed. It is more soluble in water, and is less irritating to the stomach, and less easily causes ringing in the ears, deafness, and other symptoms of cinchonism.

It has usually been thought that cinchonidia was about one-third weaker than quinine. Even if it were only this, it would be a cheaper drug, as its cost is two-thirds less. Dr. De Brun, however, is convinced that the drug stands on a par therapeutically with quinine.—*N. Y. Med. Record.*

Pharmaceutical Progress.

PARISIAN FACE-POWDER.—This is a preparation composed of equal parts of the finest "crown" zinc white, talc, and magnesium carbonate, with the addition of 2 to 4 drops of attar of rose, or the same of oil of orris, to each ounce.

TOOTHACHE DROPS.—A novel toothache tincture is recommended. It is composed of 2 drops of pure coniine and 8 drops of oil of cinnamon, dissolved in 4 drachms of rectified spirit. A single drop of the tincture on cotton wool placed in the tooth is said to give splendid results.

TO REMOVE IODOFORM ODOR FROM HANDS.—For the removal of the iodoform odor from the hands and from utensils, Bienert recommends washing once or twice with linseed oil and water. The odor is said to disappear with surprising quickness.—*Pharm. Centralhalle*, Oct. 9th, 1890, p. 616.

ZINCI BORAS.—We understand that this is a compound of zinc and boric acid—a true borate, having the formula $Zn2BO_3$. It is a white powder resembling oxide of zinc, but superior to that much-used substance, and better even than the benzoate and carbonate. An ointment is made from the borate, strength 1 to 7. It is in skin affections, such as eczema, that the salt has been found most useful.

MALT AND HYPO-SULPHITE BISCUITS.—An English house announces that they are makers of these biscuits, which medical men are prescribing for children. The biscuits are made from a mixture of three parts of malt-flour and one part of wheat-flour, and each one contains in addition a modicum of the hypophosphites of lime, potash and soda, so that they are an excellent combination for children who are losing flesh, or are enfeebled by illness. The biscuits are very pleasant to taste, and are put up in ordinary biscuit-tins to retail at 1*s*. 6*d*. and 3*s*., by chemists.

SPERMINE.—It is reported that Schering's Chemical Works, of Berlin, have registered the word "Spermine" as a trade-mark in Germany. Messrs. A. & M. Zimmermann, the agents, claim to have received a few one-gramme vial samples of the preparation, showing what is guaranteed to be pure *Spermine hydrochloride*, in beautiful long white needle crystals. They are about to introduce it to the notice of the medical faculty simply as a remedy for nervous diseases and debility; but they do not claim for it that it is a specific for the affections in connection with which Dr. Brown-Sequard's experiments have been made. Schering's *Spermine* is claimed to be made not of animal matter, but to be a purely synthetic preparation.

ANTISEPTOL.—This substance (iodosulphate of cinchonine) is much extolled as an antiseptic on the Continent just now. It can easily be made, according to Yvon, by adding to a solution of 25. grammes of cinchonine sulphate in a litre of water, a solution composed of iodine 20. grammes, and 10. grammes of potassium iodide in 30 oz. of water. A bulky precipitate of the iodo-sulphate is thrown down, which should be collected on a filter, washed with a little water, and dried. It is soluble in alcohol and chloroform, and as it contains 50 per cent. of iodine, can be used in place of iodoform, over which it has the advantage of being odorless.

AROMATIC PASTILLES.—Aromatic pastilles, for masking the fœtor of "bad breath," made after the following formula, are recommended in the *Pharmaceutische Centralhalle:*

Roasted coffee	75 parts.
Wood charcoal	25 "
Boracic acid	25 "
Sugar	60 "

Pulverize the ingredients separately, very finely, mix, and add sufficient vanillin to perfume to the taste. Finally, add sufficient gum arabic mucilage to make a mass. Divide into pastilles, lozenges, or little pills.

THE DOSE OF CHLORAL HYDRATE.—Dr. W. B. Richardson gives some interesting notes in the last issue of the *Asclepiad* on experiments which he has made with chloral hydrate, which go to prove that the maximum quantity of the hydrate that can be borne at one dose bears some proportion to the weight of the animal subjected to its influence. An adult person who has taken chloral hydrate in sufficient quantity to be influenced by it, disposes of it at the rate of about 7 grains per hour. In repeated doses, the hydrate of chloral might therefore be given at the rate of 12 grains every two hours for twenty-four hours, with less danger than would occur from giving twelve times twelve (144) grains at once.

A NEW EXCIPIENT.—According to the *Jour. de Conn. Méd.*, August 7th, M. Adam, a Parisian pharmacist, has produced a resin soap "which may be recommended as constituting a new pharmaceutical excipient." The formula is as follows:

Resin	100 parts.
Carbonate of potash	30 "
Water	300 "

The components are heated to the boiling point, when an effervescence takes place, the product being finished when the disengagment of gas ceases. The heat may be continued, however, until any desired consistency is obtained. The product may be made hard, if necessary. This soap is soluble in water and does not give a precipitate with marine salt. It may be used as an excipient for a great many drugs, and has the advantage of being less costly than either vaselin or cerate. It should not be used with metallic salts, owing to the liability to double decomposition. Resin soap works well with mercury and mixes freely with camphor, naphthol, sulphide of carbon, tar, etc. It does not make a homogeneous product with the oil of cade. It appears to have been serviceable thus far in the preparation of some of the remedies used by veterinary surgeons.

SOLUBILITY OF SOME OFFICIAL CHEMICALS OF THE U. S. P.—T. W. Thiesen, of the School of Pharmacy of the University of Wisconsin, has recently recorded in *Pharm. Rundschau*, the results of a series of careful experiments. The temperature of the solutions was uniformly at 15° C. and the mean of several experiments are made as the resultant figure given. The solutions are in water except when given for alcohol, which are noted thus (alc.):

Acid salicylic	1 in 435.5
Acid salicylic (alc.)	1 in 2.72
Argenti nitras	1 in 0.59
Argenti nitras (alc.)	1 in 19.5
Hydrarg. chlor. corros	1 in 17.74
Hydrarg.chlor.corros.(alc.)	1 in 2.72
Plumbi acetas (alc.)	1 in 30.25
Potass. bitart	1 in 25.5
Potass. iodid (alc.)	1 in 15.1
Potass. sulph	1 in 10.03
Potass. sulph. (in boiling water),	1 in 4.22
Saccharum lactis	1 in 6.7
Sodii boras	1 in 27.
Sodii hyposulphis	1 in 0.648
Zinci sulphas	1 in 0.7

METHOD OF TAKING SPECIFIC GRAVITY.—A convenient method of taking the specific gravity of wax, resin, or solid fat is given by Mr. Gawalowski (*Pharm. Zeit.*, July 9th, p. 427). It consists in placing a weighed piece of the substance, cut or cast into the form of a cylindrical rod about 1 to 1.5 Cm. long and 0.5 Cm. in diameter, into a dry, narrow-necked bottle of known capacity up to a mark in the neck. Water is then added from a graduated burette at a temperature of 15° C. until the mark is reached, when, the quantity of water required having been noted, the specific gravity can be calculated according to the formula—

$$\text{spec. grav.} = \frac{A}{W - w}$$

where A represents the absolute weight of the substance taken, W the capacity of the bottle, and *w* the quantity of water. Thus in a case where the sample weighed 0.624 Gm., the capacity of the bottle 25 C.c., and the water required 24.3 C.c., the equation would be

$$\frac{0.624}{25-24.3} = \frac{0.624}{0.7} = 0.891 \text{ spec. grav.}$$

Pharm. Journ.

APPARATUS FOR PRODUCING ARTIFICIAL RESPIRATION.—A simple, cheap and efficient apparatus for this purpose says the *British and Colonial Druggist* may consist "simply of a pair of bellows of proper size, a few feet of India rubber tubing, a face mask, and two sizes of intubation tubes. There should also be set in the tubing a double tube, with opening similar to that commonly found in the tracheal canula of the physiological laboratory so that it is in the power of the operator to allow for the escape of any excess of air thrown by the bellows. This whole apparatus can be prepared at a very trifling expense, and it seems hardly necessary to point out its probable value in various narcotic poisonings, and other accidents, in which death is produced by a paralysis of the respiratory centers of temporary nature. The proper use of it—at least with the face mask—could be taught to persons without special medical skill, so that it not only ought to form a part of the surgeon's outfit, but might also be of great service in life-saving stations, about gas works, etc."

[This embodies practically the same method and ideas that have for some time been advocated and practiced by Dr. Geo. E. Fell, of Buffalo, N. Y., and which he terms "Forced Respiration." A full account of the latter's methods and experiences appear in the *Transactions* of the New York State Medical Association for 1888.—ED.]

THE ALKALOIDS OF BELLADONNA.—Three papers were read by Professor Schmidt, of Marburg, who had investigated the roots of *Atropia belladonna* and a few other members of Solanaceæ. His examination had been specially directed to the average amount of alkaloid contained in the roots under various conditions, and the results may be expressed as under:

Taken in	Old Roots.	Young Roots.
	Per cent.	Per cent.
Spring	0.174	0.127
Summer	0.358	0.452
Autumn	0.280	0.458

With reference to the composition of this total alkaloid, he found that the young roots contained only hyoscyamine, and the old roots much hyoscyamine and a little atropine, no difference being observed between roots collected in spring, summer, or autumn. In the seeds of datura he found that the so-called daturine consisted of hyoscyamine and small quantities of atropine and hyoscine. He also analysed in a similar way the leaves of duboisia; one sample contained chiefly hyoscyamine, and another only hyoscine. Traces of mydriatic alkaloids were also discoverable in the potato herb, and in *Solanum nigrum*, in *Lycium barbarum*, and in *Nicotiana tabacum*.—*Chemist and Druggist*, Sept. 6th, 1890.

IMPROVED MANUFACTURE OF QUININE.—Gammie's production of sulphate of quinine is a process which has received much attention from chemists on account of its simplicity as well as perfect result. Briefly, the bark is reduced to powder by means of a disintegrator, and pressed through a scalper, the sieves of which are silk, and have 120 meshes to the linear inch. This extremely fine powder in the proportion of 100 parts, is mixed with 8 parts of commercial caustic soda dissolved in 500 parts of water, and there are then added 600 parts of a mixture of fusel oil 1 part and kerosene oil 4 parts. Slaked lime may be used instead of caustic soda, 15 parts of it being intimately mixed with the powdered bark before the water. The whole mixture is thoroughly agitated in barrels for four hours, then allowed to rest, and the oily layer drawn off from the top. This oil is again agitated for five or ten minutes with water acidulated with hydrochloric or sulphuric acid, the alkaloids being thus dissolved out from the oil; separation is again effected, the oil being transferred to the bark mixture and agitated with it for two or three hours, and is again drawn off and washed as before in the same acidulated liquor. This process is repeated a third or fourth time, or until it is found, by testing a small quantity of oil, that the bark has been thoroughly exhausted of its alkaloids. If the bark contains 4 per cent. of alkaloids, about two pounds of sulphuric acid mixed in 20 gallons of water are sufficient. In the after-treatment of the acidulated solution of alkaloids, the solution is first neutralized with ammonia or soda, and set aside to crystallize; and crystals are collected on a cloth and drained, then dissolved in about 50 times their weight of boiling water, and filtered hot through animal charcoal; on cooling after filtration, the crystals again form, and are separated as before from the mother liquor by filtration. The crystalline mass obtained is then placed in small lumps on sheets of white blotting paper stretched on slabs of plaster-of-Paris, and finally dried on blotting paper in a room heated 10° higher than the open air.—*Pharmaceutical Record.*

On Coloring of Salves.—Brooke calles attention to the fact that salves should be so colored as not to be distinguishable from the skin, in as much as "every mode of treatment, not repugnant to the patient, has a much better chance of regular and constant execution than any form of therapy which is burdensome or disfiguring."

Cinnabar possesses a color most similar to the reddish tint of the skin, but cannot be employed to such an extent as actually to cover the color of other medicaments. The tar-dyes are to be excluded as they color the skin itself. A good substitute for cinnabar is *bolus Armeniæ.* The slight orange tint of this substance is transformed into a very bright flesh color when mixed with white. The most beautiful white is yielded by oxide of zinc, also carbonate or basic nitrate of bismuth; kaolin will answer tolerably well, but does not preserve its white color in the presence of fats so well as mineral powders. In order to soften this bright tint, use a slight addition of umbra, which is very well fitted for the purpose.

In the presence of mercuric oxide or iodide, or tar, ichthyol, and Peru balsam, the addition of bolus or umbra will of course be correspondingly reduced.

In some cases a little carmine is necessary in order to bring forth a rose color instead of a sharp red tint. A concentrated alcoholic solution will serve this purpose best, as carmine will not permit of sufficiently fine powdering.

It is not possible to state accurate quantities for these additions, as they depend so greatly upon the medicaments to be applied. Brooke wishes to leave the medicament to the apothecary—a source of vexation in repeating prescriptions, if the shade is not exactly matched.

Where the paste form is not objectionable, greater durability may be imparted to the color-mask by the addition of starch to the salve. The fatty appearance may be readily removed by applying a little fine starch-flour to the spot on which the salve is placed. The same effect may be obtained by preparing the salve with a firm base, so that it may be used as a "salve-stick."—*Pharm. Centralhalle*, p. 506, August 21st, 1890.

Anilin Dyes as Antiseptics.—In spite of the development of "bacteriology," little progress has been made since Lister in the knowledge of destructive agencies. Now, however, Dr. Jacob Stitting, professor at Strasburg, has published the result of his experiments in this direction in a work entitled "Anilin Dyes as Antiseptics." It has been known for some time to botanists that various kinds of bacteria exhibit the power of sucking up anilin after the manner of a sponge, which results in the death of the bacteria. By many experiments, undertaken with the help of Dr. J. Wortmann, Dr. Stitting has further confirmed this opinion. He found that the group of colors which, for the sake of brevity, he designates as "methyl-violets," has the power of arresting the development of bacteria in a concentration of 1 to 80,000, and that in a solution of the strength of 1 to 2,000 impurity can not exist. From this the Professor went on in his endeavors to test whether what was true in the vegetable kingdom might not be applied with advantage to the human organism. He experimented, in the first place, with rabbits and Guinea-pigs by giving them methyl-violet free of arsenic; then he afflicted these animals with serious eye disease, and treated them with anilin solution. The success was so satisfactory that Dr. Stitting, believing himself justified in trying the effect of his discovery on the human system, next treated a child afflicted with ulceration of the cornea. The ordinary antiseptic means had been applied without any good result, when Dr. Stitting began to drop a solution of methyl-violet into the eye every day, and was rewarded by daily improvement in the condition of the cornea. Similar results were obtained in other cases of serious eye disease. But still greater satisfaction was in store for him in the field of surgery. In a case of inflammation under the nail of the great toe, which had already been the cause of a partial removal of the nail, the patient described the cure by the touch of an anilin pencil as marvelous, and in less than twenty-four hours it might be considered complete. But the most astonishing results were obtained in the case of a man seventy years of age, whose lower thigh was covered with ulcers, which refused to heal and caused pain in walking. Dr. Stitting, by the help of anilin applications, effected so rapid a cure that on the third day the patient was able to walk without pain, the swelling in the thigh went down, and the sores dried up. There can be little doubt, therefore, that Dr. Stitting's discovery must prove useful for surgical purposes, and he cherishes the hope that its use may be extended to cases of pleuritis and peritonitis or inflammation of the intestines.—*U. S. Consular Reports.*

A New Valve for Wash Bottles.—In view of the fact that metallurgical and technical chemists have daily occasion to use hot acids, ammonia, and other fuming liquids in the washing of precipitates, a wash bottle which will automatically throw a prolonged stream of liquid and retain all disagreeable fumes will be appreciated by the fraternity. A strong objection to the use of a rubber bulb attached to the wash bottle is the fact that a slight rise in the temperature of the room will force the liquid out of the bottle; while the ordinary rubber valve, as described by Blair in the "Analysis of Iron," will swell and become useless in a short time when exposed to the fumes of hot acids. A very simple apparatus can be made in a few minutes which obviates both these difficulties.

A rubber stopper, doubly perforated, and of such size that it will project about a quarter inch above the neck of the wash bottle, is chosen, a lead pencil or penholder passed into one of the holes, and a small hole drilled through the side of the stopper till the borer meets the wooden plug.

A wedge-shaped channel is then cut in the side of the stopper from this side hole to its lower end. A piece of glass tubing is now closed at one end and a small opening about the size of a pin's head made in the glass an inch from the closed end. This can be easily done by a small flame directed upon the surface of the glass, while air is blown into the tube. This small opening is made level with the rest of the tube, and the glass is bent at the regulation angle about two inches above this opening. This is then placed in the rubber stopper so that the hole in the glass tube and that cut in the stopper will coincide.

An exit tube for the escape of the liquid is made as usual, and the tubes and stopper placed in the neck of the wash bottle in such a way that, when air is blown in, it passes through the side hole in the stopper, down the wedge-shaped groove, and forces the liquid up the exit tube. A very slight rotation of the inlet tube, after the liquid has begun to flow, will close the valve, and the pressure of the enclosed air will maintain the stream, which can instantly be stopped by reversing the rotation.

If the apparatus is well made, the angle of rotation of the inlet tube is very slight, not over twenty degrees.

I have had this apparatus in use for several months and find that it does not get out of order, is much easier to handle, and saves more labor in the washing of precipitates than any other form of wash bottle. The inlet tube is so small that no appreciable evaporation of ammonia occurs, nor does a rise in the temperature of the laboratory result in an undesirable washing of the working benches.—David H. Browne in *Journ. of Anal.*

Notes and News.

Self-Lighting Cigars.—A druggist in St. Petersburg has invented a method of tipping cigars with a preparation, so that they are lighted like a match, by rubbing against any hard surface. A manufacturing company is said to have paid him 60,000 roubles for the patent.

Eureka Adjustable Pad for Applying Liniments, Ointments, etc.—This pad is a new adaptation of a felt material arranged so that, whether liniment or ointment be applied, the full effect of the medicament will be obtained, and yet there will be no soiling of the garments. These are made in three sizes—No. 1 for liniments, No. 2 for ointments, and No. 3 for applying mustard leaves—and the retail prices are, respectively, 40, 25, and 10 cents.

Money in Cosmetics.—Kate Field has been examining some statistics, and finds, to her horror, that American women spend $62,000,000 a year for cosmetics, most of which are made of zinc oxide, and of calomel and other poisons. This leads her to ask this pertinent question: "How can women vain enough to paint and dye their hair, bring forth children stalwart enough to resist temptation that lead to all manner of vice, including drunkenness?"—*Druggists' Circular.*

The Robert M. Green Co.—These aggressive and enterprising soda-water apparatus manufacturers are prepared to afford druggists all information regarding the latest and most approved forms of soda fountains. Now is a good time for those who want to put in soda fountains to send in their orders.

This house, it will be remembered, announced, when the proposed purchase of the soda water industry by an English syndicate was agitated, that they would fight the monopoly single-handed. They report that Mr. Silas Stillwell, who represented the English syndicate, has set sail for England, and that nothing further has been heard of his contract to buy the American soda water industry.

A New Suppository Machine.—An improved form of suppository machine is now on the market, in which cold compression takes the place of fusion and pouring the material in chilled moulds. It also avoids some of the delay incident on that process, and also commends itself on the score of economy of price. To operate this machine, the medicament, with some scraped or grated cacao butter, is mixed in a mortar after the style of a pill mass, and, when perfect admixture has been accomplished, allowed to stand a brief time to slightly harden (or this may be facilitated in summer by placing the mass in an ice chest or refrigerator); then place it by portions in the conical receptacle of the machine. The mould is placed in the square receptacle of the machine, adjusted quickly by the levers, and a portion of the mass forced into the mould by means of the upper lever and ratchet; the amount of pressure is soon ascertained by use. The machine works nicely and rapidly, and commends itself by its simplicity, acceptable work, and very reasonable price.—*Pharm. Record.*

Meeting of the German Apotheker Verein.—This society met in Rostock, under the presidency of Dr. Brunnengraëber. The attendance was somewhat poor, only a little over a hundred being in attendance, and these chiefly chemists from the extreme north of Germany. The greater part of the proceedings concerned the Society's rules of association, etc., and quite uninteresting to all but the members. There was, however, one resolution of considerable interest, to the effect that the Reichstag should be petitioned to sanction the employment of duty-free spirit for the manufacture of medicinal preparations. Dr. Witte, who is a member of the Reichstag, promised to use his influence to secure the desired concession. A paper was also read by Dr. Fritsch on the chemical relation between the new synthetical remedies; and another by Mr. Siebert, of Marburg, which dealt with educational questions. It is perhaps of interest that the income of the Verein in 1889 was 40,402 marks, and the expenses 36,113 marks, while the capital amounts to 66,874 marks.

The New Trade-Mark Regulations.—Assistant Secretary Spaulding of the Treasury Department, has issued a circular to officers of the customs and others, calling attention to section 7 of the new tariff law, providing that on and after March 1st, 1891, no article of imported merchandise which shall copy or simulate the name or trade-mark of a domestic manufacture or manufacturer, shall be admitted to entry at United States custom houses. In order to aid the customs officers in enforcing this prohibition, it is provided that a domestic manufacturer who has adopted a trade-mark may require his name and residence, and a description of his trade-mark to be recorded in books kept for that purpose in the Treasury, and may furnish to the department fac-similies of such trade-marks. The circular contains a statement showing what should be furnished in applications for the recording of names or trade-marks in the department. The application should also contain the names of the ports to which fac-similies are to be sent. No fees will be charged for this recording. The circular says that a sufficient number of fac-similies should be forwarded to enable the department to send one copy to each port named in the application.—*Druggist's Circular.*

Opium Cultivation in Mexico.—Says *Export and Finance*:—The Mexican States of Sinaloa and Sonora are never troubled by the frosts which blight the crops of the plant in Persia and Western Asia. Further, the rich alluvial soils in the valleys of Sonora, Oposura, Yaqui, Mayo, Rio Fuerte and Rio de Culiacan will, without any question, result in opium of the finest kind being produced such as never could be attained in the low damp soils of Bengal and Southern China. Great Britain now has a monopoly of the drug. She would no longer have it if Mexico, by the aid of American capital, were to enter into competition with her. Mexico could almost at once obtain the entire Chinese trade and drive the British governmental trust out of the market. The cultivation of the poppy is one of the simplest imaginable. In Mexico, even the very slight precautions deemed necessary to bring it to a condition suitable for the production of the inferior grades of opium of China and India need not be troubled about; climate and soil combined would attend to that. The Indians of Mexico, including children, could be very quickly shown the simple methods of opium-making. In the matter of quality, Mexico can have but one rival, and that is Egypt.

Buffalo College of Pharmacy.—The amount of instruction given this year in this College of Pharmacy will be a considerable increase over other years, especially in the senior class, which will have 314 hours instead of 275, as heretofore.

There has been a number of changes in the Faculty. Dr. E. P. Vandenbergh was compelled to retire from the Chair of Chemistry by reason of the pressure of other duties, and has been succeeded by Herbert M. Hill, A. M., Ph. D., who is now Professor of Chemistry in both the Medical Department and the Department of Pharmacy of the University. Three new members have been added to the Faculty, A. L. Benedict, A. B., M. D., as Lecturer on Botany; Willet H. Mosher, as Assistant in Chemistry; and S. Hobart Dorr, Ph. G., as Assistant in Microscopy. These changes have rendered necessary a reorganization of the Faculty, and the officers are now: Willis Gregory, Dean and Treasurer; Eli H. Long, Registrar; and John R. Gray, Secretary. Dr. Vandenbergh's retirement left vacant the representation of the College of Pharmacy on the University Council, and Dr. Gregory was elected to this position.

The instruction in the different departments has been somewhat modified so as to make a more equal distribution of lectures among the professors. The laboratories have been restocked and some gifts have been added during the year, and more will be appreciated. One recent gift that is much valued is a copy of the first Pharmacopœia issued in this country. It was published in 1820, and printed in both Latin and English.

At a recent meeting of the Faculty, a free scholarship was voted to the city of Buffalo, to be awarded to the student who shall receive the highest average standing in grammar, geography, arithmetic, and the elements of botany, chemistry and physics, as determined by a competitive examination conducted by the Superintendent of Education, the Principal of the High School, and the Principal of the State Normal School at Buffalo. The competition to be open to any resident of Buffalo who has attained the age of seventeen years, and is of good moral character.

DRUGGISTS' BULLETIN

A MONTHLY EXPONENT OF

PHARMACEUTICAL PROGRESS AND NEWS.

Vol. IV. No. 12. DETROIT, MICH., DECEMBER, 1890. $1.00 a year. Single copies, 10 cents.

THE DRUGGISTS' BULLETIN.
ISSUED MONTHLY.

EDITOR:
B. W. PALMER, A. M., M. D.

COLLABORATORS:
PRACTICAL PHARMACY.
J. LE ROY WEBBER, Ph. G., LEON C. FINK.

CHEMISTRY.
F. A. THOMPSON, Ph. C., J. B. NAGELVOORT, Ph. G.

BOTANY AND MATERIA MEDICA.
H. H. RUSBY, M. D., G. SUTTIE, Ph. C

PHARMACEUTICAL APPARATUS AND INVENTIONS.
J. B. RUSSELL, Ph. G.

GEO. S. DAVIS, Publisher,
P. O. Box 470, DETROIT, MICH.

Articles designed for insertion in The Bulletin, subscriptions, advertisements, and all communications should be addressed to the publisher.

Editorial.

FRENCH CRITICISM OF AMERICAN PHARMACEUTICAL PROGRESS.

Mundus Vult Decipi.

A little knowledge is verily a dangerous thing when applied to the discussion of such grave interests as are involved in uniformity of strength of pharmaceutical preparations.

One of our French confrères, the editor of *L' Union Pharmaceutique*, in the November, 1890, number, p. 513, *à propos* of the recent arrest and fine of New Jersey druggists for making tincture of nux vomica by a method which more effectually secured accuracy of alkaloidal strength than that prescribed by the unrevised United States Pharmacopœia of 1880, assumes the rôle of judicial critic, and displays a regretful lack of knowledge of the subject he writes about.

While we are gratified to learn that the editors of French pharmaceutical journals take such an interest in American pharmaceutical affairs, we desire to point out to our critical friend, and French pharmacists generally, how this gentleman has misled his confiding readers as to the facts.

Our confrère states:

> It is probable that the authorities in New Jersey were not ignorant of the fact that the pharmacists of the United States had acquired the habit of making their tinctures from concentrated tinctures, which are possibly only alcoholic solutions of the alkaloids; (thus, their alkaloidal content may be affirmed with certainty, since it is directly added) and that these authorities, have justly desired to counteract this mode of preparation, rapid and convenient, but questionable from a therapeutic point of view. There are not only alkaloids in nux vomica, as in other active drugs, but there are extractive matters whose action is indisputable, and may modify in one sense or other the true action of the crystallized elements. When the physician prescribes the tincture of nux vomica, he does not prescribe a simple solution of strychnine, and in substituting the latter for the former, wrong is done.

The facts our critic does not appreciate are, that nux vomica is a drug that yields twenty or twenty-five per cent of soluble matter to water, and if he places so much reliance upon this portion of the remedy, why does he not employ an aqueous menstruum to the exclusion of the alkaloids? In other words, there must be a point at which we reach a proper balance between extractive matter and total alkaloids. One cannot have all of both and have the alkaloids in the form in which they naturally exist in the drug. The extractive matter, exclusive of alkaloids, is valuable for this simple reason, viz., because it contains certain organic acids that, combined with the alkaloids, yield salts that may differ in their action from the artificial salts produced by the combination of the alkaloids with some fixed acid. Therefore, if we extract the alkaloids in the form in which they naturally exist in the plant, viz., in combination with these aforesaid acids, then we have taken out all the virtues which the drug possesses. Nux vomica is never administered as a demulcent, and yet most of its extractive matter consists of gums.

These facts have been corroborated by eminent authorities in this country. A recent confirmation of them appears in the *New York Pharmaceutical Record*, December 1st, 1890, which editorially says:

> The writer has examined the preparation Normal Fluid Nux Vomica, made by Parke, Davis & Co., from which the tincture of nux vomica was made, and after careful and repeated testings, made within the present week, has proven satisfactorily that

> it *does* contain the *full amount of alkaloids which are claimed*, which, when made into tincture, ~~gives the proportion which~~ should be present when made in accordance with the U. S. P. process. So that the article in question, in place of being adulterated, is, in fact, fully up to the *intended* requirements of the U. S. P. The technical fact is that the inert extractive matter is *not* present; but the process employed gives all the alkaloidal value, which is the only medicinal portion that has any special merit. In fact, we believe that when the extract has its alkaloids removed, the remaining portion of the extract will be found to consist of inert extractive matter, being variable portions of gum, resin, fixed oil, and sugar.
>
> It will be a step forward when the U. S. P. adopts the process of alkaloidal test for this preparation, and relegates to the past the very unsatisfactory one of that of 1880. A sample of extract examined by the writer, which should have shown the presence of at least fifteen per cent. of alkaloids, contained but five per cent. Thus it might have answered the test of the U. S. P., but utterly have failed to produce the remedial effect that was desired and expected. It is one thing that there is a technical defect, it is quite another to be charged with a criminal act.

We cannot but regret that the editor of *L'Union Pharmaceutique* has assumed such an untenable position while placing under the ban of criticism those who are as jealous of their own good name as he is himself.

It would not be even economical for manufacturers to substitute solutions of alkaloidal salts for tinctures, or fluid extracts prepared in the usual way, and we therefore believe that our esteemed contemporary's suggestion that most of these preparations are synthetical in character, is absolutely without foundation.

We trust our distinguished French critic will, with the native grace of his nation, be polite enough to make the *amende honorable* to his readers.

NEW DISCOVERIES IN CONCENTRATED FOODS.

Among the products that properly have their sale through druggists, are the concentrated foods, which the intelligent physician of to-day finds an indispensable adjuvant to medicinal means of sustaining nutrition in diseases attended with enfeeblement of the digestive and assimilative functions.

What may be termed hypernutrition, is now an established and important method of treatment in all wasting diseases, and notably in the great devastator of human life, pulmonary consumption.

The rôle of concentrated foods is not limited, however, to the invalid alone. The problem of affording armies, large forces of laborers, or the inmates of large charitable institutions,an available concentrated nutritious diet, is one of the greatest importance.

Dietetics, or the selection of proper alimentation representing the highest nutritive power and requiring the least effort of the digestive functions, is an art in which progress is of National interest.

One need only allude, as illustrations of the application of such foods, to the great army of dyspeptics whose views of life are embittered by their inability to digest ordinary foods, and to the alarming prevalence during the hot months of infantile disorders dependent largely on improper or irritating diet.

Notwithstanding the attention given to the manufacture of concentrated foods during the last quarter of a century, physicians, and even the public, have learned that many foods of this nature previously introduced, are lacking in certain qualities that are necessary to render them available in the cases that come under the physician's care.

One essential of such a food is palatability, that it may not offend the sensitive palate of the invalid. A second important requirement is, that such foods shall permit of being prepared in a variety of forms, so as to prevent monotony of diet. A third quality necessary to an ideal food is, the highest possible degree of nutrient value in the most readily assimilable form. A fourth prerequisite to the general use of concentrated foods is, low price. The high prices of many of the foods previously made, have prevented their use in general practice among those not well-to-do.

The preparations of nutrient concentrated meats which have hitherto been available, may be divided into: The extracts of meat, prepared after Liebig's formula; the so-called meat juices; the powdered meats, and; meat peptones.

Without presenting in detail the objections characterizing these foods, we may say that they all fail to meet the requirements specified above.

It will be gratifying to all interested in progress in dietetics, to learn that prolonged experiment has resulted in the production of some concentrated and partially predigested foods, which appear to meet all the indications for universally applicable concentrated nutrients.

The history of the experiments which led to the introduction of these new food products is a most interesting one, and represents many years of patience and painstaking investigation.

After presenting their methods to the French Academy of Sciences, the discoverers succeeded in organizing a company for the manufacture of these improved foods, and have established agencies in many countries.

A brief description of these concentrated foods has been furnished us by the manufacturers, The Mosquera-Julia Food Company. Those thus far presented are Mosquera's "Beef-Meal" and "Beef-Cacao."

The following claims, which have been substantiated by analysis and abundant experiment, are made for these nutrients:

Mosquera's Beef-Meal contains all the inorganic salts and stimulating principles of the extracts of meat, and, in addition, the nutritive principles which the extracts lack; all the albumen of meat juices without their weakness; all the extracts of powdered meats without their rancidity or insolubility; all the peptone of peptonized meats without their bitterness.

Mosquera's Beef-Meal, is a perfectly pure predigested meat, containing all the nutritious constituents of lean beef, half of which are in soluble form ready for assimilation, the other half easily digestible by the gastric or pancreatic juices. The entire preparation is composed of nutritive matter, containing about forty per cent. of soluble peptone and albumose.

Mosquera's Beef-Meal represents in actual nutritive value, at least six times its weight of lean beef. It is perfectly palatable, and will be tolerated with ease by the most delicate stomachs. It admits of being administered in a variety of forms, thus avoiding monotony in the food.

It may be given in any thick soup, condimented to suit the taste of the patient, or mixed with biscuit-powder, oatmeal porridge, milk and sugar. Again, it may be mixed with chocolate, which makes a delicious beverage, or given in the form of a sandwich, and finally, as a plain beef tea, simply dissolving it in hot water and adding salt.

Mosquera's Beef-Cacao consists of equal parts of beef-meal, sugar, and a superior article of Dutch cacao. It does not require cooking, but may be mixed with warm milk exactly like ordinary chocolate; and so completely is the taste of the beef disguised, that it cannot be detected. Requiring therefore no previous preparation, it is most conveniently administered.

THE KOCH CONSUMPTION CURE.

Doubtless our readers are already familiar with the reports of Prof. Robert Koch's discovery of a remedy for hitherto unremediable consumption, as they have been heralded in the medical and daily newspaper press.

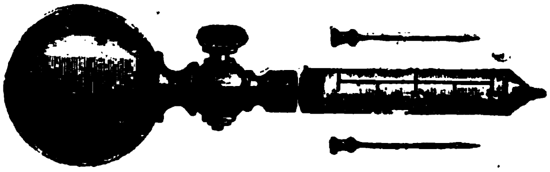
Divested of the natural exaggeration of journalistic hyperbole, and the enthusiasm of those in the profession and out who have optimistically accepted all the methods previously advanced for the cure of incurable diseases, the simple facts seem to be as follows:

Robert Koch has established for himself, by his previous scientific work, a reputation for thoroughness, accuracy, and modesty. Any announcement he may make, therefore, as to the results of his labors, is accepted as based on elaborate investigation and achievement of definite results.

The claims made for Koch's method by himself, we understand to be briefly stated, that the injection of a certain solution in selected cases of consumption and lupus, in the incipient stages of these diseases, will so mitigate the severity of the tuberculous process as to relieve many of the customary accompanying symptoms. That it will permanently restore patients suffering from tuberculosis in its advanced stages, is yet undetermined. Experience thus far would seem to show that the injection of Koch's lymph aggravates the condition of those in the advanced stages of tuberculosis.

It may be interesting to our pharmaceutical readers, pending Koch's definite revelation of the formula he injects, to be informed of the latest reports to date of the physical appearance of this so-called "lymph" and its method of employment. The material used by Professor Koch in his inoculations for tuberculosis, is a viscid fluid the color of a dilute solution of iodine, is of a slightly syrupy consistence, and is supplied in white glass corked bottles containing each about forty grammes. It is prepared for use by adding one hundred grammes of sterilized water, the maximum dose of injection being one gramme. The injection is made subcutaneously in any part of the body, but preferably between the scapulæ. No reaction appears locally, but at the end of four hours severe constitutional effects are manifest in the appearance of rigors with *malaise*, followed by a temperature which may reach 106° F., with a corresponding increase in the pulse-beat from 120 to 160. Vomiting frequently occurs at the acme of the fever. In some cases the reaction is attended with alarming symptoms, with very great prostration requiring the use of stimulants, and severe dyspnœa. When the tuberculous deposit is superficial, there is in and around it great tumefaction. The amount of constitutional disturbance is said to be governed by the extent of the tubercular deposit. This is noted particularly in cases of lupus, and in tuberculous glands of the neck. The constitutional symptoms are usually of short duration. Subsequent injections are not attended with systemic disturbances. Over the surface and in the neighborhood of tuberculous swellings, scabs appear, which on being separated leave healthy granulating surfaces. Cases in that stage are said to be cured, inasmuch as they show no constitutional reaction.

We give herewith an illustration of the syringe used by Koch in making his injections.



It will interest the drug trade to know that Koch's "lymph" is dutiable under existing tariff laws, and, like many other remedies of foreign manufacture, the imported article will doubtless bring a fancy price.

It is to be regretted, we think, that impressions of Koch's methods have been so universally based on newspaper sensational reports of its efficiency. This has led to a large exodus of consumptives and physicians to Berlin, which is to be deplored, since such visits can result only in disappointment.

"Hope springs eternal" in the breast of consumptives, but it would not be in accord with known facts to expose such patients to the inconveniences and dangers of travel in an inclement season, when so little hope of appreciable benefit can be consistently promised.

Until the formula of Koch's "lymph," the method of preparing and employing it, and the limitations of its use, are more definitely known, and the discoverer has fully divulged his full knowledge of, and claims for, his method, the statements so glibly made as to its revolutionizing the treatment of phthisis should be taken *cum grano*. In the meantime, we may still resort to climatic change, hypernutrition, and disinfection of sputa, which have at least stood the test of time, and shall promptly communicate to our readers any progress made in determining the value of this new and promising method.

THE UTILITY OF SULPHUR AS A GERMICIDE.

The disinfectant or germicidal value of sulphur has recently been widely questioned by many sanitary experts, and as strongly maintained by others.

This diversity of opinion has been hitherto seemingly inexplicable. Failure with sulphur as a germicide is attributed by those who have faith in its virtues to inefficieny or lack of thoroughness in employing it.

A review of the recent literature of the subject would indicate that such authorities as Cyrus Edson, of the Sanitary Department of New York, and Henry B. Baker, of the Health Board of Michigan, hold diametrically opposite views as to the utility of sulphur as a germicide.

Recent experiments reported from Paris throw much light on this much discussed topic, and point out the germs that the fumes of sulphur will destroy and those it will not.

The views expressed substantiate the strong claims made by Dr. Baker, of the Michigan Board of Health, as to the efficacy of sulphur disinfection, and at the same time afford an explanation of the failure of this agent in some cases.

Doctors Thainot and Masselin have recently completed a thorough investigation of the action of sulphurous acid on disease germs.

These gentlemen had at their disposal the resources of the Pasteur Institute laboratory and the use of some vacant wards at the Charité Hospital, and owing to these facilities, were enabled to procure or prepare the various septic agents, and to conduct the disinfecting operations under conditions closely similar to those of current practice. A number of different virui were simply exposed to the sulphurous acid in a room of fifty cubic metres (17,065 cubic feet) capacity, tightly closed with putty. The gas was evolved in various proportions, but the quantity of sulphur consumed was noted in all cases. The results were as follows: Septic vibrio, or Pasteur's septicæmia, was tried under four forms—that is, as bouillon culture, dried culture, serous discharge from a septicæmic Guinea pig, and septic powder. The last, obtained by drying the discharge to the shape of varnish on a glass plate and powdering, is exceedingly virulent. Sulphurous acid proved, even in large proportions, utterly powerless in all cases. Symptomatic and bactericidial charbon remained unaffected, as a rule, though large proportions of sulphur fumes continued for forty-eight hours occasionally had some effect.

On the other hand, in tuberculosis, in cultures supplied by Professor Nocard, and in the form of sputa fresh and dried, in all cases Koch's bacillus was found to have been destroyed by a twenty-four hours' exposure to the fumes, in the proportion of 60 grammes of sulphur to the cubic meter (28 grains to the cubic foot). Even in sputa, the most refractory form, the bacillus will be killed, but the full dose of sulphur will be necessary. Glanders:—Cultures of full virulence will be destoyed after twenty-four hours' exposure to the fumes of 60, and even 50 or 40, grammes (28, 23 and 19 grains of sulphur to the cubic foot). Typhoid fever:—Cultures of Eberth's bacillus from the morbid spleen; complete destruction after twenty-four hours with 60 grammes of sulphur. Diphtheria:—Cultures supplied by Dr. Roux; after twenty-four hours and 60 grammes of sulphur, all Kleb's bacilli were entirely destroyed. Asiatic cholera:—The only cultures procurable being rather old, the proof cannot be said to be quite satisfactory, yet the bacilli were easily affected by even small doses of sulphur. Guadaloupe farcy:—Virulent cultures of this peculiar affection of the ox, obtained from Professor Nocard, were invariably rendered inert after twenty-four hours' exposure to 60 grammes of sulphur, but smaller proportions were unreliable. It is shown that in these experiments sulphur fumes were useless with septic vibrio and charbon; but in 60 gramme doses to the cubic meter, and after twenty-four hours' contact, they destroyed the germs of tuberculosis, glanders, farcy, typhoid fever, diphtheria, and probably of cholera.

We think candid observers will agree that this explanation is a plausible one. It is seldom indeed, that a remedy which has held such a high position in the esteem of the profession and public for its specific virtue as a disinfectant, for so long a time as sulphur, is proven worthless. It will be observed, however, that thoroughness of application alone insures its germicidal action.

BOTANY AS A BRANCH OF PHARMACEUTICAL EDUCATION.

Our English contemporaries are discussing the propriety of the instruction of the student of pharmacy in botany. There seems to be little difference of opinion on this topic. Certainly, in well appointed schools of pharmacy, some fundamental knowledge of botany should be considered essential to the intelligent understanding of the nature of medicinal principles derived from plants.

The *Pharmaceutical Journal and Transactions* thus urgently pleads the necessity of botanical knowledge for the pharmaceutical student.

"The real and only satisfactory reason why pharmacists and their pupils should devote time and attention to botany is, that it daily becomes more and more necessary that he who would succeed in any particular path in life should be able to handle in a workmanlike fashion, and know the varied capabilities of, all the tools and materials that lie at his service. And it is hardly credible that any sane individual is prepared to assert that the vegetable materia medica of to-day is of so little consequence that we can afford to neglect becoming acquainted with it as intimately as possible. The imperfect specialization of subjects which has cut vegetable materia medica away from botany, and caused it to be regarded almost as a distinct study, whilst, on the other hand, the chemical materia medica remains bound up with the science to which it gave birth, must be remedied. We should retrace our steps a little way, and correlate the divorced branches of the science. The use in class demonstrations specimens taken from regular stock drugs, would go far to level the artificial barrier that has grown up in the course of time. Another advantage of the innovation would be, that learners at the same time pick up the rudiments of botany and familiarize themselves with the characteristic appearances of the drugs. Briefly summarizing a method of study that suggests itself as suited to the needs of pharmaceutical students, a first essential seems to be a knowledge of the chief organs of plants, together with a clear understanding of such of the principles of classification as will enable specimens to be be readily identified by the aid of a flower. This engages interest at once, and gives encouragement by the feeling of power it imparts to the tyro. Also, by necessitating constant reference to a glossary, it insensibly assists him to gain an acquaintance with the different forms assumed by the various organs. This, it will be seen, obviates any resort to "cram." Next there should be a thorough grounding in the elements of plant life. This should be eminently practical, section cutting and the use of the microscope being taught at the beginning and practised constantly afterwards. Chemical knowledge should be applied, and the structure of cells and tissues be made clear by appropriate reagents. At the same time, the functions of the various plant elements must be explained in detail. Later the students should be led to the critical examination of both macroscpic and microscopic characters of typical specimens of the different plant organs, and taught their relative use in the economy of the plant as an individual. During the whole course, fresh or dried specimens should regularly be made use of, and at the end, the knowledge of classification thus imparted could be summarized. Of course this plan admits of variation and amplification, but above all things there should be an excess of practical work, and it may confidently be predicted that few students at the close of the session will ask what is the good of the work they have done."

Original Articles.

PRACTICAL PHARMACY.

"SHOULD THE NATIONAL FORMULARY BE GENERALLY ADOPTED, AND WHAT MEANS SHOULD BE USED?"*

CUTTERS—THE PATENT-MEDICINE QUESTION—SAMPLE VENDERS—SUBSTITUTION.

It is not my desire to be an alarmist, but to "speak the words of truth and soberness." A very important subject confronts us to-day as pharmacists and business men, threatening to revolutionize our calling, imperil our interests and, indeed, to destroy our business. This menace is not circumscribed by the narrow limits of a State or section, but throughout the length and breadth of the Union the blight is threatening. Wise counsel and conservative judgment should be brought to bear, and I call upon my brother pharmacists throughout this broad land to co-operate with us in sounding the alarm. Let us, one and all, do what we can, and all we can, legitimately, to turn back the tide.

Time and space forbid the attempt to discuss all the evils which are upon us, but my object is, as briefly as possible, to present some remarks touching upon one of them, and to suggest a remedy for it. If time permitted, and the opportunity was auspicious, I would like to have a word to say of that army of traitors and enemies to our interests—the "cutters." Whenever I hear of one of them I am reminded of the ancient fable of "the dog in the manger." Just here is where the expressive term "mean dog" originated; and if the term ever was appropriate to anybody, it seems to me it exactly fits the cutter. Who ever heard of a good man who was a cutter? I never did. I detest him; we can have nothing in common. The good Lord, in his infinite power, could have, and in stern justice should have, (but in wonderful mercy has not) a place deep enough or hot enough for the disembodied spirits of this bad set.

But to proceed. It is our proud boast that we, as pharmacists, compare favorably with other learned professions in our many rapid strides in education, skill, experiment and improvement—in every particular that makes our calling useful and respectable. Some of our most accomplished scientists and scholars are pharmacists, and we are advancing to a higher plane every day. Most of our States have laws governing pharmacy, which are being rigidly enforced, and whereas, only a few years ago, any one however ignorant, could dispense medicine, now, by wise and judicious legislation, our excellent Pharmacy Board stands as a guard and protection to the people, and only intelligent, educated gentlemen can do so. Whilst this is elevating to us, the protection to all is beyond estimate. As a proof that this is true, attention is directed to the fact that since the adoption of the Pharmacy Law in Virginia, there has not been an accident within the borders of the State sufficiently important to chronicle. It may mot be amiss to remark just here, to prevent over-confidence on our part, that the history of accidents proves that they very rarely, indeed almost never, occur from ignorance, but almost in every instance from carelessness or thoughtlesness, and sometimes with the most accomplished and experienced.

---

*Paper read by E. A. Craighill, M. D., Lynchburg, at the Annual Meeting of the Virginia Pharmaceutical Association, October 9th, 1890, Old Point.

With all our boasted advance, it is a question at least fair to ask, whether the skill, knowledge, and experience, are as essential now as formerly to successfully conduct a drug store. Thirty-five years ago, when I first undertook to learn the mysteries and miseries of the drug business, we were taught to prepare everything nearly. By handling and weighing, and measuring and mixing, we learned the qualities and quantities of most preparations by actual experience. Now we buy nearly everything ready-made, *even the doctor's prescriptions;* and the most that young men can learn, or rather do learn, of pharmacy in stores, is what they read in books. As well may a man expect to make himself a perfect anatomist by reading books and studying painted pictures; he must have the actual and tactical experience on the cadaver. Theory and reading are important, indeed necessary, but so is experience, to make the perfect pharmacist; and it is unfortunate that any one should be a successful pharmacist and still know little about it. A good prescriptionist at one time was necessarily a good druggist. It is not so now. It has become so common to dispense ready-made medicines, a druggist can succeed fairly well who can read a physician's prescription, and see that the name is the same as that on some package from his ready-made stock. This state of affairs is very much the fault of the physicians who prescribe these patented prescriptions, and, unfortunately, it is becoming very common, and is getting worse every day. Where is it to stop, and when? It is much less *trouble* to prescribe a medicine already prepared, and the dose calculated, than to further tax an already weary brain (as is often the case with doctors), and study out a prescription, calculate quantities, doses, and so forth. It is much less trouble, and several times too, to buy a ready-made coat, but does it give the same satisfaction? Applying this homely illustration, is it as satisfactory to the physician, if he has any intelligence at all, to use a ready-made prescription for his patient, that never fits exactly, as to study the symptoms and the remedies, and to work out something of his own from his knowledge and experience? It is troublesome, I know, but he is paid to take trouble, and his own sense of right and justice to his patient should make him do the best he can; but is he doing the best he can when he prescribes a secret remedy of a quack in disguise, and a remedy (?) so-called that he could not tell the constituents of if his life was the forfeit? I have heard physicians argue, and, indeed, have known them to become indignant if they were accused of prescribing patent medicines. Sometimes they do not know they are patent medicines; sometimes they don't want to know. That they are frequently such, I will prove farther on.

Physicians sometimes excuse themselves for prescribing this class of so-called remedies, and argue in extenuation that they often prescribe official mixtures in the same way, with only a general recollection of their component parts and quantities. This is an excuse, but not a justifiable argument at all, because it is always possible, and generally convenient, to ascertain all that is necessary of official mixtures; whereas, on the other hand it is always impossible to know anything of the advertised mixtures, except what the manufacturers choose to tell, and chemical analysis and pharmaceutical experiment have proved the fallacy of their statements. Many of the mixtures are absolutely hurtful and dangerous. My candid judgment, based upon a long experience, is that the majority if not all of this class, are utterly worthless, and the prices paid by the dupes who buy them are outrageous. I have taken the trouble to carefully calculate the actual cost in a retail store of one of the leading so-called remedies (?) of this class, which sells for a dollar; and using the highest priced materials, the mixture can be prepared for thirteen cents, that is, if the formula as published is correct. That any of them publish their true formulas, I hold is an absurdity. What they publish is claimed to be for the information of the medical profession, but they really impose upon the credulity of the physicians; and the extent to which they succeed in this is wonderful, judging from the car-loads of their stuff the doctors prescribe. All druggists know, some by experiment, and troublesome as well as expensive experience, that these published formulas with which our high-toned ethical journals abound, are delusions and frauds, else many of the best pharmacists must confess their dismal failures in producing mixtures that could be regarded as a "colorable imitation," or a tolerable substitute. But if any of you should succeed in the reproduction of even a "colorable imitation," and give it a name similar to one of these same mixtures, often owned by doctors and still oftener extensively prescribed by them, you are at once arrested with the threat of an injunction, and, under a penalty of fine or imprisonment are ordered to stop preparing this imitation; and this upon the ground that they hold a patent from the Government. And this time they are telling "the truth, the whole truth, and nothing but the truth." I hold in my possession all the papers bearing upon such a case, and if I have a Thomas Didymus in my audience, or those who are at all curious on the subject, they have my full permission to thoroughly examine them.

If these mixtures, which I believe are quack medicines of the worst kind, are intended to benefit anybody except those interested in them, why is it that every one of them is so carefully covered by a patent, just as all other secret remedies are? Doctors are sometimes very much horrified that some ignoramus, who has a diploma in Latin which he cannot read, but which gives him the authority to write M. D. after his name, prescribes one of the acknowledged patent medicines. Before this ethical, "I-am-more-righteous-than-thou" sort of a doctor has a convulsion over the short-comings of his less informed brother, it might be well to remind him that he too (possibly a professor and teacher), prescribes patent medicines; and the only difference is, that one is a secret remedy, and is what it claims to be, and the other claims not to be a secret remedy, but is, and is consequently not what it professes to be.

I learned medicine at the feet of Dr. George B. Wood, in the old University of Pennsylvania. A higher toned and more honorable gentleman never lived. He taught me, and I trust the memory of it will be with me always, that if a physician found out anything in medicine or surgery that would benefit the race, he should be a benefactor indeed, and give it, not sell it, to the suffering. What would have been thought of Jenner if he had charged a royalty on vaccination, or of Guthrie if he had attempted to sell the secret of chloroform, or of Dr. Hodge if he had made all pay him to use his lever pessary, or the immortal Sims if he had enjoined the medical profession from using his vesico-vaginal suture? A firm, now that Sims is dead, dares to sell what they claim was one of the products of his great brain, thus making money out of his reputation in a way he would not have permitted had he lived. But everybody seems demoralized now. The time was, when our medical journals would not, as some of them do now, sell themselves to the owners of the patent medicines who advertise with them. Many of the journals which ask the patronage of physicians, and get it too, are owned by the proprietors of the patent medicines they advertise; and it has happened that a physician, writing to his favorite journal on the "abuses that have crept into the profession," finds his article published on alternate pages with advertisements of patent medicines. Now, I am very sorry all this is true of the medical journals of this country. It is a shame; and for the honor of the noble profession I would like to see it proved false. If I am of sufficient importance (the subject is, I know), I may be taken to task for saying all this; but I believe it, and dare to say that most of them advertise these patent medicines, and the money they get for it purchases their independence at the same time, and they are afraid to say, and will not say, what they must know; that mischief is being done, and that good could be done, if they would, with their might power, from one end of the land to the other, condemn the great and growing evil of doctors prescribing remedies which they can know nothing of.* By what blind process of ratiocination a doctor can reach the conclusion that he can benefit his patient without knowing what he is giving him, is beyond my comprehension. Let us get back to the good old times, which some of us remember, when doctors wrote their prescriptions out of their own brains, and their own druggists prepared them as they were written; let us discard this new fashion of prescribing some one else's ready-made humbug, which any doctor, however ignorant, can recommend, and any ignoramus, claiming to be a druggist, can pour from one bottle into another, and number as a prescription.

One of the greatest nuisances to which city physicians are subjected, is the frequent, persistent, and ever-recurring visits of peripatetic pill pedlers and sample vendors. Their estimate of themselves is, that a Solomon, and Demosthenes; with a Lord Chesterfield boiled down into one, could not concentrate the wisdom and fluency of speech, with the elegance of manner, that abounds in their magnificent carcasses. "Solomon in all his glory was not arrayed like one of these," with their grip-sacks of samples and inexhaustible impudence. Unlike the "lilies of the field," they diligently "toil" and "spin" yarns which would put to blush Ananias and Sapphira. If the doctor treats him with even scanty politeness, he at once assumes that his mission on earth is to pour his exalted wisdom and knowledge into the benighted soul of his victim—this poor, ignorant doctor, who has all his life been mistreating his patients. These nomadic gentlemen are often selected from the ranks of the medical profession, but not on account of their skill and knowledge; generally one is selected who is a failure as a practitioner, but smart enough to know how to "pull the wool" over the eyes of the doctors. They rarely solicit orders, though never refuse them; their mission is solely to *instruct the doctors*. Beau Hickman is said to have been the "cheekiest" man the world ever knew, but he lived and died before the samplers were known. I don't know how it strikes others, but I think it colossal impudence for these men, many of them but glib ignoramuses, to presume to tell educated physicians what medicines they should prescribe for their patients. Our physicians, as a general rule, are polite gentlemen, and because of this are imposed upon, excessively annoyed, and their valuable time consumed by these chattering parrots. Sometimes I think a busy doctor would be excusable if he lost all patience and kicked one of them out of his office.

---

* A few days ago a customer, a worthy gentleman, brought a prescription to our store to be prepared. It consisted of two drachms of the pyrophosphate of iron to be dissolved in four ounces of one of those professedly published formulæ, ready-made, patented proprietary doctors' prescriptions. It proved to be not a solvent for the iron, most of it going to the bottom, but enough dissolving to produce four ounces of apparently excellent ink; and the man is taking to-day a teaspoonful of ink, which is doing him no good, maybe harm, for which he paid me fifty cents, and the doctor a dollar or two for prescribing a medicine, so-called, that the facts prove he knew nothing about.

The sampler, though sometimes, indeed right often, gets in his work and leaves a sample; the doctor agreeing, thinking this the easiest and quickest way to be rid of a nuisance. Many have little idea how soon their samples reach their proper place with the rest of the trash in the back yard. They are *experimented with*, however, in proportion to the doctor's inexperience, ignorance, and youth. A young doctor would expire at once if he hadn't an opportunity or could not make one to try a sample. He has the sample which cost nothing, and he must try it on somebody; and he does. And there are to-day thousands of poor, miserable wretches all around us, slaves to whisky, opium, and chloral, whose lives have been wrecked and their immortal souls imperiled, who can trace their ruin to a sample injudiciously administered by a young and inexperienced doctor. Do not understand me as saying that all who distribute samples, or all who use them, are such as are described above. Most emphatically, I say not; for I know personally many honorable gentlemen who distribute samples of good medicines, and some of the most experienced and skillful physicians who properly use them.

We have been treated to a good deal of literature lately, indeed, for some time, both in the advertising and reading columns of our journals, on the subject of druggists substituting another's preparation for that prescribed. I believe that substitution is very uncommon, and never practiced by the better class of pharmacists without the sanction of the physician. There are two very simple modes of preventing it entirely; and if the doctors would universally adopt either, nobody would hear of substituting hereafter, because there could be no benefit to anybody by it. The simplest and easiest mode, and an effectual preventative, would be never to designate any particular manufacturer's products, but to see that all prescriptions were taken to reputable druggists, honest men, who would supply only pure and reliable medicines. The double advantage would be to remove the temptation for substitution, and incite all druggists to do right.

The other preventive is for physicians to confine their prescriptions to the products of the United States Dispensatory, Pharmacopœia, or the National Formulary. And it is contended that it is not necessary to go outside of them for a remedy for the treatment of any disease, as new remedies are introduced and become official as soon as the experimentors find them to be meritorious and deserve it.

After a long and tortuous wandering I arrive at the query I propose to discuss and answer—"Should the National Formulary be generally adopted, and what means should be used to secure its adoption?"

The first means necessary to bring the National Formulary into general use, is to let the physician know of its existence; and, next, to familiarize him with its contents. Of course, there are already a great many who know all about it, but there are just as many who have never heard of it. To accomplish the first, we must get it into the hands of the physicians. There is only one way to do this, and that is to get out an edition for gratuitous distribution, and then have some one paid to distribute them. How this can be done I leave for wiser heads than mine to determine. If a copy was in the hands of every physician, I believe they would be sufficiently interested to familiarize themselves with it, and self-interest, if nothing else, would prompt its universal adoption. The advantages to everybody—doctor, druggists and patient—are so many and great that to estimate them is difficult. It would be a serious, if not fatal, blow to the manufacturers of the thousands of so-called remedies, known and advertised as non-secret proprietaries, intended for physicians' prescriptions.

The object of the National Formulary is not to teach physicians how to write prescriptions, or what to prescribe, but it is intended only as a help to doctors and druggists by suggesting convenient and compatible modes for mixing that which everybody, if they will, can learn and know all about.

The National Formulary deserves respectful consideration and critical examination, because it is the matured work of some of the best minds and most distinguished men, selected from both the medical and pharmaceutical professions because of their learning; and the book is the result of careful experiment, and not scientific theory.

If these formulæ were adopted in every city and town, of course every good druggist would be prepared to make any mixture called for; and, in these days of much travel and rapid transit, it would be a great comfort for a traveler from New York to be satisfied he could have his prescription renewed in San Francisco, or even in a village in Alaska, or in any of the Canadian towns, and get exactly the same as in New York, without the trouble and danger of breakage and deterioration consequent upon transportation. All of us have been humiliated by being compelled to tell travelers that we could not prepare his oft-repeated prescription, because the remedy he wants, though simple and common where he came from, is not used, and little known in our section. No explanation will explain, either; and he goes away believing that we are ignorant and behind the times.

There are as many elixirs of phosphate of iron, quinine and strychnine, almost, as there are druggists, and some very different from others. If a person in New

York has his bottle filled and labeled, and gets a red mixture, and takes it to a store in Richmond to be refilled and gets a brown mixture, you are wasting words and making yourself ridiculous in explaining to him that they are the same thing only different in color. In point of fact, they are both elixirs of iron, quinine and strychnine, but it is highly probable they are different. But if No. 63, in the National Formulary, was universally adopted, the elixir in New York would be exactly the same in Richmond, and such a misunderstanding would be impossible.

Much money can be saved the sick if the remedies from the National Formulary are substituted for the advertised proprietaries, because the expense of advertising (and it is enormous) comes out of the consumer always. And besides, all users of patented monopolies, of whatever nature, pay more for them than they are worth.

The responsibility of errors is all thrown upon the druggist by the general adoption of these formulas; and this is a very much more important matter than the uninitiated imagine. Whether the doctors know it or not, we are certain that there is not a druggist here who does not know of cases, and a good many of them, where doctors patients would now be numbered with the saints in glory (?), if the prescriptions that restored them to health had not been corrected by the druggist before being prepared, after calling the doctor's attention to his mistake.

The trouble of writing out prescriptions would be saved, to say nothing about the time; and if there is any way to insure absolute secrecy this would do it. And if pharmacists do their duty by keeping copies of the National Formulary away from those who have no business to see them, the case would be exceptional where a patient would know what the doctor was prescribing. Now, many read prescriptions before handing them to the druggist, and it is by no means an uncommon thing to hear their criticisms of charges, etc. I wish I could say it would cure the evil of renewals without the doctor's order. Alas! I am forced to admit that it would not, but I firmly believe it would lessen it.

Time forbids my enumerating all the benefits claimed for the general adoption of the National Formulary; and as my object is to induce physicians to at least investigate its claims, I confine myself principally to the benefits to them.

A physician desires his patient to take a certain combination with hypophosphites. The National Formulary contains a number of formulas, one of which will meet almost any indication. If he orders a certain number, he and the druggist alone know that his patient is taking the hypophosphites. On the other hand, if he prescribes one of the numerous advertised preparations, his patient knows as well as he does what he is taking, and often jumps to the conclusion, too, (particularly if cod-liver oil is one of the combination) that the doctor has detected consumption, and goes off and perhaps worries himself into ill health when such an idea really had never entered into anybody else's head. But, suppose he does not have consumption, but is benefited, the next time he thinks he needs such a medicine (right or wrong), he goes to the druggist and calls for it; and very likely gets something which, whilst exactly right when the doctor recommended it, is exactly wrong when he recommended it for himself; and the man is damaged, and the doctor abused for having recommended the wrong thing. Moreover, the doctor has lost his fee. The trouble does not end here, for if the man who was benefited by taking what the doctor prescribed for him, has a neighbor who he thinks is sick in the same way, he does not send that neighbor to the doctor for a prescription, but to the druggist to buy the medicine. Thus a sick man, very likely, pays two prices for a medicine that does him harm, and it is certain a doctor has missed a fee that he was entitled to. No druggist could, if he would, refuse to sell to any one who will pay for any of the ready-made medicines which falsely claim to be intended only for physicians' prescriptions. We know, and so do the manufacturers, that whilst these preparations are first introduced to doctors by samples, and then to their patients by their prescriptions, yet, after the public finds them out, ninety-nine hundredths of them are sold over the counter to anybody, just as all other advertised patent medicines are, and the doctors have nothing to do with them. More conspicuously is this the case with mixtures of opium, whisky, and chloral.

It is claimed by nobody, that the general substitution of the National Formulary products for the advertised so-called non-secret proprietaries, would correct all the evils that have fallen to us in our times; but it will correct some of them, and is worth trying. And it is a sacred duty we owe to our customers and ourselves to do all we can to bring it about and right a wrong. No physician, if the right kind of a man and a gentleman, will be offended to have his attention respectfully invited to this matter, and with the profoundest respect I ask their serious and careful consideration of it.

And now, friends, I have finished. I have attempted no sky-scraping pyrotechnics, but in the simplest, plainest manner, my honest convictions have been expressed. Some may differ from me, as they have a perfect right to do, and I accord to them the same honesty of conviction that I claim for myself. I sincerely thank you for your patient hearing, and humbly apologise for having talked so long and said so little.

SOME THERAPEUTIC NOTES OF INTEREST TO PHARMACISTS.

BY H. M. WHELPLEY, M. D., PH. G.

Tape worms sometimes come within the range of druggists for treatment. The potent platinum trap which was invented by some foreigner the past year did not become popular, so we must still resort to medication. Camp proposes to give a half fluid ounce or more of castor oil at night, and follow it with thymol in the morning. Twelve ten-grain doses of thymol are given at intervals of fifteen minutes. After the last dose of thymol a second dose of castor oil is administered, when the expulsion of the worm may be expected. We would suggest that no supper be eaten the day before the thymol treatment. At the time of expulsion the patient should sit in a bowl of warm water so that the passage of the worm entire will be facilitated.

If pharmacists will study the metric system, and use in their business, it will save them much annoyance with our present cumbersome weight and measures; as a consequence they will enjoy better health. Thus it is that the metric system may be made a therapeutic agent.

The *Linimentum chloroformi* of the Pharmacopœia is rather a satisfactory pharmaceutical preparation, still some contend a more satisfactory combination is the following:

℞	Chloroform................	4 fluidounces.
	Camphor....................	1 troy ounce.
	Liquid vaselin, q. s.........	8 fluidounces.

First dissolve the camphor in the chloroform and then mix the solution with the liquid vaselin, to form a liniment. This would be much stronger in chloroform than the official liniment.

The nasal douche is a dangerous apparatus unless in the hands of an experienced physician. Statistics show that many cases of deafness are caused by the careless use of this instrument. Pharmacists should bear this in mind and not recommend its use as a cure-all for catarrh.

A cure for ivy poisoning is a liniment of one part of boroglycerid with three of oil of sassafras. Paint this on the surface every five hours.

The scrofulous individual requires special care during the winter months. Woolen underclothing should be worn, and the best of hygienic conditions observed.

Nature's sunshine and fresh air are the most plentiful, cheap, and best tonics at the command of a physician.

As a substitute for the mother's milk, Starr recommends: Cream, 4 fluidrachms; milk, 20 fluidrachms; sugar of milk, 30 grains; water, 1 fluidounce. This is intended for one feeding. In case the child requires more at one time, all of the ingredients, except the cream, may be increased.

In selecting a preparation for masking the taste of quinine, attention must be given to the idiosyncrasy of the patient. One that is agreeable to one, may be considered worse than quinine by another. Among the eligible preparations from which to select we have: Aromatic syrup of yerba santa, aromatic elixir of liquorice, fluid extract of liquorice, ammoniated glycyrrhizin, ground coffee, syrup of coffee, cascara cordial, etc.

The druggist who has sold mercurial ointment to "kill crabs" and never heard of a case where it failed to do the work, will wonder why anyone has looked for another remedy. But the patient who used the "stuff" wished for some less disagreeable preparation. A recent writer claims that salicylic acid is the ideal insecticide for *pediculis pubis*.

One of the most important points in therapeutics for a druggist to study is toxicology, and a knowledge of the action of poisons and what to do in case of accidents, may save more than one life in a druggist's experience.

Rhus toxicodendron is an official drug, although one that is seldom used or described by the Pharmacopœia. In the fresh state it causes severe poisoning to some persons. Occasionally persons are so readily affected that they are poisoned even by the atmosphere in the immediate vicinity of the plant. Numerous are the methods of treatment for the eruption caused by this poison. One of the latest is reported by a Dr. Straley who uses a strong decoction of the leaves of *Castanea Americana* or chestnut. This treatment is simple and worth a trial when the season for ivy poison again comes around.

Among the thousand and one positive cures for warts is the application of one part arsenious acid, ten parts of citrine ointment. Continue until the wart softens and disappears.

The oil of mullein flowers is a new remedy, if we are to credit the statements of numerous medical journals. It is now in general medical practice and will form a new item in the druggists' price lists, but is an old time remedy. The so-called Eclectic school has employed it for half a century. These herb doctors manufactured their own oil of mullein, which fact accounts for the absence of the item from the wholesale drug trade. Again we find that "there is nothing new under the sun."

The proper method of using urethral injections is seldom followed. A recent writer on the subject says: "Never use a glass syringe. I give preference to Goodyear's rubber syringe, which has a bulb shoulder, preventing the nozzle from entering too far into the urethra. Warm the injection fluid before using; do not overfill the urethra; never stroke the under surface of urethra after injecting; never use injections until the acute stage is passed; never give injections which irritate or burn."

The evils of counter-prescribing by pharmacists are probably more real in the cases where gonorrhœa is treated. The main object of both druggist and patient seems to be to stop the urethral discharge and lessen the pain from urination. As a consequence, the "cured" patient is worse off than before the treatment. Then follows a long list of complications to destroy the health and happiness of the penitent customer. It will undoubtedly be some time before counter-prescribing druggists learn to desist from copying physicians' prescriptions in their note-books under the head of "Dr. —— Sure Cure for Gonorrhœa." The time will come about the date of the advent of physicians who write legible prescriptions, and never mix incompatibles.

The troublesome night sweats which annoy consumptives are now controlled by 30-grain doses of camphoric acid given in wafers, noon and night. This is more effectual than placing a basin of water under the bed, as is followed by some quacks.

Pepsin and its preparations are occasionally prescribed in combination with salicylic acid or the salicylates. Those who get up such mixtures forget that salicylic acid is an anti-ferment and will prevent the pepsin from acting as an aid to digestion. As Dr. Eccles pointed out in his recent paper on the subject, pepsin is a much abused remedy. In fact, it is quite a popular domestic medicine, and is often taken without regard to therapeutic use or indications.

ST. LOUIS, MO.

BOTANY AND MATERIA MEDICA.

SYZYGIUM JAMBOLANUM,* *D.C.* — A PHARMACOGNOSTIC STUDY.

BY DR. NEUMANN WENDER.

This moderately large tree, indigenous to India and cultivated on the Antilles, belongs to the family of the Myrtaceæ and to the group of the Eugenioideæ. In the "Prodromus," pars III, p. 279, August Piramo de Candolle describes twenty species of *Syzygium*, among them the *S. Jambolanum*. The bark, the leaves, and especially the fruit and seeds of this tree, were long ago praised on account of their excellent properties in the treatment of various diseases, by numerous naturalists. The great Arabian traveller, Ibn Batuta (Abu Abdallah Mohammed Batutah, born in 1303 at Tangier in Morocco, died 1377), who visited India in the year 1332, mentions "jambu" as one of the fruits of Delhi. Also the Spaniard, Garcia de Orta (Garcia ab Horto, Aromatum et simplicium aliquot medicamentorum apud Indos nascentium historia, Antwerp, 1579), who came to Goa in the year 1534, knew the drug well, and in his Pharmacognoscy devoted to it a special chapter (Cap. XIII, de Jambos). Rosenthal, in a systematic review of the medical and useful plants of all lands, gives a detailed description, and even mentions its astringent properties: "The Jambolana-capflower, also *Eugenia Jambolana*, Lam., possesses an aromatic astringent bark, and is employed in diseases of the stomach and intestines, and in fluxes of mucous and blood." According to his description, the fruits have a disagreeable taste, but are eaten by the inhabitants, after the manner of olives, preserved in salt, or the decoction is used as a gargle in inflammation of the throat. Despite its manifold uses, the drug is not official in the Indian Pharmacopœia.

From the description of Dymock in his work on the Indian medicinal plants, and the report of the International Exposition at Calcutta, the following may be taken respecting the occurrence and employment of the drug in its habitat:

Syzygium Jambolanum may be found in various provinces of India under different names. The original name, "Jambu," comes from the Sanskrit. The drug is called "Jambúl" in Bombay; "Jaman, jam, jámunt," in Hindostan; "Kálájàn" in Bengal; "Thabyai-pyu" in Burman; and finally, in Tamila, "Navel."

The tree grows wild or cultivated, easterly from the Indus, to a height up to 5,000 feet. During the months of July and August it bears many sour, edible fruits, which are usually of the size of an olive, but which in some places attain the size of a dove's egg, and are then of excellent quality. The leaves are 3 to 4 inches long, short-stemmed, smooth, and longish ovate, blunt or pointed, and, differing from the leaves of other Myrtaceæ, are not transparently punctated. They taste and smell spice-like. The expressed juice of the leaves is used either alone or in combination with other astringent remedies in dysentery.

Bhavaprakasa, in Dutt's "Hindu Materia Medica," gives various modes of preparation, and recommends the fresh juice with milk and honey in various diseases. Further, if the fresh juice of the leaves is permitted to stand for some time in the sunlight, a froth separates on its surface, which is said to be a good tonic and astringent when gathered and washed. Another physician recommends the juice of the bark in goat's milk as a good remedy for the diarrhœa of children.

The purple-red fruit, of the size and form of an olive, has a very astringent taste. Inside there is a thin, white paper-like shell which encloses a large green kernel. The fruits are used as a good remedy for diarrhœa; the decoction as a gargle and as a poultice for sores. A vinegar prepared from the juice of the ripe fruit, is a very agreeable stomachic and carminative. In new Sanskrit works, finally, an alcoholic liquid is described, which is called "Jambáva," and is obtained by distillation from the juice.

The Syzygium fruits may be procured in the Indian market. The drug reached us only a few years ago, and especially the bark and the seeds have attracted the attention of medical men, as it is claimed to be an effective remedy for diabetes mellitus.

H. E. Banatvala (*Chemiker-Zeitung*, 1887, No. 8) was the first to call attention to the specific effect of this drug, and a whole series of observations by various physicians confirms his statements. Dr. W. H. Morse has successfully employed the powder of the bark and seeds in doses of gramme 0.25 thrice daily. In his opinion the medicament stimulates the vaso-motoric and reflex functions of the spinal marrow to increased activity, and the blood-pressure is especially elevated in the arteries of the kidneys. Now and then nausea is observed. In diabetes the specific gravity of the urine is reduced, and also the quantity of sugar, etc. According to Morse, the explanation of its action is to be found in the fact that it hinders the conversion of starchy substances into sugar.

---

* Now known as *Eugenia Jambolana*, Lamarck; see Bentham & Hooker, "Genera Plantarum," vol. i, p. 719.—[ED.]

Shortly after this publication by Morse, Alois Quirini declared that the drug recommended by Morse was not identical with the seeds of *Syzygium Jambolanum.* On account of these contradictory statements, we must necessarily have an accurate description of the drug, for which there seems to be a growing demand, and which seems to have a future. With the exception of the short examination of the bark by Moeller in his excellent work on "The Anatomy of Tree Barks," and by Holfert in the *Centralhalle*, 1889, p. 659, there exists to my knowledge no further information. Christy ("New Commercial Plants") also states that the drug is hard to get, and that the fruits, as a result of poor drying and bad packing, are for the greater part useless. For example, of four different consignments, only one was of value; the other three, comprising 400 pounds of seeds, were spoiled. I can only confirm this statement. In numerous fruits which I examined, the mesocarp was really filled with countless bacteria of decay. The further circumstance that the natives eat the fruit, increases the difficulty of obtaining it not inconsiderably. It is thus easily to be seen that, with an increasing demand, substitutions and intentional adulterations may readily occur, which can only be ascertained by an exact microscopic examinatiou of drug unquestionably genuine.

The firm of G. & R. Fritz, has sent to Docent Dr. Jos. Nevinny, assistant instructor of pharmacognoscy and pharmacology at Vienna, the bark, and later the fruits and seeds, of Syzygium Jambolanum. Mr. Nevinny was so very kind as to give me the material for investigation, for which I would here express to him my heartiest thanks.

Cortex Syzygii Jambolani.—The rather hard bark, occurring in large pieces up to 1 cm. thick, is covered externally with reddish and gray braids or scales which may be easily rubbed off. The bark freed from these braids then possesses a reddish-yellow exterior. Inside the bark is dark brown, longitudinally fibred. The fracture is fibrous, the taste astringent from the proportion of tannic acid contained. Simple contact of the cross-section of the bark with solution iron chloride reveals at once the tannic acid.

A cross-section through the bark permits the distinguishing of two differently colored layers, separated from each other by a slight line. The outer bright brown, one is nearly 2 mm. broad with deep fissures and rough, lumpy upper surface. In its cross-section, numerous concentric slight dark lines may be distinguished. The inner part of the bark, pink to chocolate-brown, possesses a smooth, longitudinal-fibred, brown inner surface, and is two to three times as broad as the outer part. In the brown ground-mass of the inner cross-section of the bark, numerous white spots and points may be seen in almost concentric arrangement, imparting to this portion of the bark a marble-like appearance. The rather large spots, which may be seen even with the naked eye, are characteristic of Syzygium.

MONTHLY REVIEW.

A valuable contribution to the chemistry of Insect Flowers, by Messrs. Schlagdenhaffen and Reeb, is reprinted in the *Druggists' Circular*, Nov., p. 249. The authors' conclusions are set forth as follows: "The active principle of pyrethrum flowers is an acid, soluble in alcohol, amylic alcohol, ether and chloroform, which may be isolated by means of ether after having been converted into an alkaline salt and decomposed by tartaric acid in aqueous solution.

When pyrethrotoxic acid was hypodermically injected into animals, it was observed that the poison produced its effects in two distinct stages. In the first there was an excitement more or less pronounced, proportional to the quantity administered; in the second there was a complete prostration, accompanied always by paralysis of the lower extremities, which might disappear after a time, or be the precursor of a fatal issue, the respiration and circulation being affected only in the latter case."

We are pleased to read in the *Therapeutic Gazette*, Nov., p. 758, an article quoted from Dr. Murrell in the Sept. *Lancet*, maintaining the therapeutic importance of Picrotoxinum. The article discusses the chemistry, therapy and toxicology of the drug. Like strychnine its best antidote is chloral hydrate.

Upon the following page of the *Therapeutic Gazette* the relative physiological effects of theobromine and caffeine are briefly discussed.

On page 763, same journal, are presented the conclusions of Dr. Ugolino Mosso, concerning the physiological action of cocaine. Dr. Mosso regards it as a paralyzer of the motor nerves. Absorbed slowly through the stomach, large doses increase the capacity of the muscles for action, particularly if they be fatigued, and still more so in connection with fasting. The most valuable portion of the paper is the indication of the great modification in the effects dependent upon the size of the dose.

Bulletin No. 7, of the West Virginia Ag. Exp. Station, John A. Myers, Director, details Experiments upon Wheat, Fruit Trees, Garden Seeds, Grasses and Forage Plants and Miscellaneous subjects, and is a pamphlet of 72 pages.

Contributions from the U. S. Nat. Herb., No. 3, by Profs. Vasey and Rose, is a list of plants collected by Dr. Edward Palmer, in 1890, in Lower California and Western Mexico. From these we cull the following:

Horsfordia Palmeri, Wats. (Nat. Ord. Malvaceæ), is called "*Mariola*," and is much used as a remedy in female diseases; *Bursera microphylla*, Gray (N. O. Burseraceæ), called "*Torote*," yields a bark used for dyeing and tanning, and largely shipped to England; an injection is prepared from it for use in gonorrhœa, and a drink prepared from the gum for the same purpose; *Karwinskia Humboldtiana*, Zucc. (N. O. Rhamnaceæ), is called "*Cacachilla*," and its decoction is used in common fever; the wood of *Hæmatoxylon boreale*, Wats., yields a dye; *Cassia Covesii*, Gray, (N. O. Leguminoseæ), is called "*Oyason*," and the roots and stems are used as a blood purifier, for the making of poultices, and in hot baths for the cure of certain diseases; an undetermined species of *Calliandra* (same order) is called "*Tabardillo*," the Indian name of yellow fever, and its root now used in fevers; *Franseria tenuifolia*, Gray (near Ambrosia, in Compositæ), is called "*Instanata*," and used as a remedy for fever and ague; *Porophyllum gracile*, Benth. (N. O. Compositæ), is called "*Yerba-del-venado*," and used in decoction for pain in the stomach; *Solanum Dulcamara*, L., "cultivated, but said to be native," grows with long branches of violet-colored flowers and chocolate-colored berries;* *Elytraria tridentata*, Dahl (N. O. Acanthaceæ), is called "*Cordoncello*," and used in hot decoction for pains in the stomach; *Hyptis laniflora*, Benth. (N. O. Labiatæ), is called "*Salvia*," and used in doction in fevers; *Stegnosperma halimifolia*, Benth. (N. O. Phytolaccaceæ), called "*Amole*," is a soap root, and has the reputation of curing hydrophobia; *Krameria canescens*, Gray, *var. paucifolia*, Rose (N. O. Polygalaceæ), imparts a cherry-red color to water, is called "*Mezquitilla*," and is said to yield a yellow dye; *Franseria ambrosioides*, Cav. (N. O. Composisæ), is called "*Chicoria*," and when cooked in oil is much used and esteemed as a local application in rheumatism; *Paspalum distichum*, L., (N. O. Gramineæ) is called "*Grama*," and used for kidney troubles and gonorrhœa. Of the Damiana (*Turnera diffusa*, Willd., *var. aphrodisiaca*, Urban), Dr. Palmer says: "This plant is widely known in this locality under the name Damiana. It has a wide medical reputation as a stimulant in exhausted vitality and for the cure of syphilis, and as a blood purifier used in the form of hot tea. All over the Peninsula where it can be had, it is used as a substitute for China tea; it has a pleasant flavor unlike any other plant. It is made into preparations with spirits and sold by druggists for its strengthening qualities. It refreshes one greatly when fatigued, alleviates nervous diseases, cures colic, and is an efficacious diuretic. It is put up at La Paz in large quantities. Flowers close at night."

The *Journal of the American Medical Association* has placed itself in a most ludicrous position by the editorial statement that it has just discovered in a St. Petersburg exchange the existence of the phosphate of spermine, a substance whose composition and properties have formed one of the most interesting topics of discussion in the American medical journals for a year or more, and which was isolated for medicinal investigation, and so investigated, by Messrs. Parke, Davis & Co.

The same valuable number reprints a short article, page 419, giving much information concerning the adulteration of insect powder.

We learn from a recent number of the *American Agriculturist* that a new agricultural industry has been introduced into India—the cultivation of the South American plant, the *Erythroxylon Coca*, Lam. The plants are said to thrive well in the hill country of Northern India, and there is every prospect that the enterprise will be commercially successful.

There has been very much of suspicion, if not actual slander, very recently current in European newspaper literature directed against a new commercial product known as "cocoanut butter." It is with pleasure we read an elaborate series of reports upon the article in the October issue of the *Kew Gardens Bulletin*, which proves its merits in a highly satisfactory manner. The "butter" is a white odorless and almost tasteless fat, prepared from the copra, or kernel, of the cocoanut. It solidifies at about 68° F., becoming above that temperature (79° F.) a pure white oil. This low melting-point, however, constitutes the only fault—and that only one of convenience—which can be found with the article. The process of extraction and purification of the natural product has been patented "in most civilized countries," so that we may soon expect to hear of its naturalization in the United States. We have not space to make extracts from the various official reports, but we summarize their conclusions with regard to the claims made for it as a dietetic: (1) Its extremely high saponification degree (258.5 according to Rud. Benedikt) renders adulteration impossible: (2) It does not turn rancid: (3) It is not a suitable nutrient medium for micro-organisms such as bacteria, etc: (4) It is much easier digested than ordinary butter or lard—this fact was proved both by artificial digestion tests and by physiological experiment with 116 cases of patients suffering with every form of dyspepsia, not one of whom complained of any discomfort, although many of these were unable to eat any pastry prepared with the usual fats without being afterwards troubled with pyrosis and cardiac pain. The butter retails in Germany at from 13 to 15½ cents a pound, and although the output is at present 50 cwt. a day, the demand is more than keeping pace with the supply. Its economic importance has been already permanently established.

*** We strongly question the determination.—Ed.**

Mr. James Mooney, who has devoted much time to studying the Cherokee Indians, says that the aggregate botanical knowledge of their doctors embraces about eight hundred species of plants, although no one doctor knows the names of more than three hundred species. As many as two thousand species flourish in the regions of western North Carolina, where the Cherokees have dwelt, but they have no name for even the most conspicuous flowers unless the plants are used as food or medicine; and Mr. Mooney concludes that they had no appreciation for beauty or fragrance as such. Nevertheless, they must appreciate some of the qualities of plants in a semi-poetic, semi-superstitious way, for we are told that part of the ball-player's training is to assimilate the strength of ironwood, the toughness of the roots of *Tephrosia virginiana*, and the persistent erectness of a rush, by bathing themselves in decoctions made from these plants.—*Garden and Forest.*

ANSWERS TO CORRESPONDENTS.

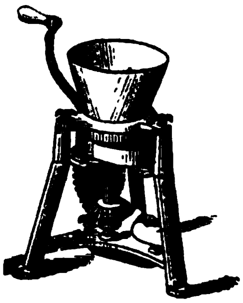
H. R. (Florida).—The specimen received under the names of Marvé and Tea-weed, is the *Sida carpinifolia*, Lin. fil. There are no medicinal properties recorded against the plant, but many of the same order are used in popular medicine in diarrhœa and dysentery. There would be little use introducing this plant for this purpose since, belonging to the same order there are other plants now on the market fulfilling the same applications. We might mention, for instance, Hollyhock (*Althæa rosea*, Cav.), which is used "in irritation and inflammation of the mucous membrane;" Marshmallow (*Althæa officinalis*, Lin.), used "as a demulcent in inflammatory affections of the mucous tissues;" and also for the same purpose, Low mallow (*Malva rotundifolia*, Lin.).

J. L. H. (Georgia.)—The specimen received with the many vernacular names you give it, such as Fluxweed, Four Corners of the World, Four Wonders of the World, etc., is the ***Galium pilosum***, Ait., ***var. puncticulosum***, Torr. & Gr. The plant, in common with almost every other plant which grows, has been recommended for snake bite. It is reported to be used in dysentery and diarrhœa, and also to have proved of service as a diuretic in dropsy and in treating scorbutic and nervous diseases; authentic reports, however, of its use are not numerous. It is very closely allied botanically with Cleavers (*Galium Aparine*, Lin.), and Ladies' Bed-straw (*G. verum*, Lin.), and probably also in its general medicinal properties.

F. W. P. (Calif.)—The specimen sent in for identification consists of the leaves of *Ledum glandulosum*, Nutt. We note what you say concerning their beneficial use in the treatment of kidney diseases.

Nut-Cracking Department.

Mill for Making Ointments.



"Arthur:"—We can recommend no better device for mixing ointments than the small paint mill represented in above sketch. The surfaces are readily adjusted to grind coarse or fine, and it is easily taken apart to clean. The mill can be turned by hand, or by substituting a grooved wheel for the crank it can be connected with a running shaft by means of a small cord.

Such a mill costs about six dollars.

Antipyrin and Antifebrin.

"Fred:"—The following simple tests will enable you to distinguish antipyrin from antifebrin readily:

Antipyrin is a white crystalline powder, very soluble in water and alcohol, and slightly bitter to the taste.

Antifebrin comes in white scales resembling crushed boric acid. It is very sparingly soluble in water, freely so in alcohol, nearly tasteless, producing a tingling sensation on the tongue, which disappears quickly. When masticated it produces a peculiar noise similar to the gnashing of teeth.

When the two bodies are in solution, the best method to distinguish them is the following:

To some of each of the solutions add a small quantity of dilute solution of potassium nitrite containing an excess of chemically pure sulphuric acid. The antipyrin solution will remain limpid and assume a bright green color, while the antifebrin solution remains colorless and a flocculent precipitate is formed.

N. B.—As potassium nitrite is not easily obtained in the market, on account of its instability, the following offers an easy method for preparing it extemporaneously for this purpose.

Dissolve a drachm of potassium permanganate in about three ounces of distilled water, add an excess of strong ammonia, and heat the mixture until the purple color has disappeared. Filter and evaporate the filtrate (best in a Venetian flask with a plug of absorbent cotton in its orifice,) to about one-half ounce, which preserve in small glass-stoppered bottle. The oxygen of the atmosphere oxydizes the nitrite very rapidly to nitrate and renders it unfit for the purpose.

The above described test is very sensitive and characteristic of antipyrin.

Prescriptions Should Not be Wrapped in Patent Medicine Advertisements.

One of the medical journals recently published a little story which is both amusing and instructive. A physician relates that some time ago he had a young man under treatment for lung trouble. He wrote a prescription, the medicine was duly obtained from a convenient pharmacy, and the patient took it. After the supply had been exhausted the patient called to report. He was improving and intimated that he thought of getting another bottle of the remedy, incidentally inquiring if it were not "Dr. Blank's Wonderful Discovery!" The physician smiled with disgust and replied with a very large "no," as he was happily one of the kind that did not find it necessary to use "discoveries" of that character. He inquired, of course, how his patient had gained that idea. "Oh," said he, "the paper in which the medicine was wrapped had printed on it, 'Dr. Blank's Wonderful Discovery.'"

Many druggists for the double purpose of economy and incidental advertising use all the free wrapping paper furnished by the owners of "patents." But probably have not thought of so far-reaching an effect as has been chronicled by our medical friend.

The doctor thinks that the moral of his story is that druggists should be warned not to do up prescriptions in patent medicine advertisements.

Bismuth Subnitrate and a Bicarbonate.

A correspondent states that the following prescription exploded some three hours after it was compounded:

℞	Tinct. strophanthi	f ʒ iss.
	Bismuth trisnitrat. [?]	ʒ ij.
	Sodii bicarb	ʒ ij.
	Mucilag. tragacanthi	f ℥ ss.
	Syrupi	f ℥ ss.
	Aquæ	ad. f ℥ iv.

The term *Bismuth Trisnitrate* properly belongs to the crystalline acid salt having a chemical formula Bi$(NO_3)_3 . 5H_2O$. This salt is not official and is rarely employed in pharmacy except as a source from which to prepare the *Subnitrate* or other salts.

The casual association of the term *trisnitrate* with the *basic* salt in such chemical text books as "Tidy" and "Bloxam" is probably responsible for the common practice of dispensing subnitrate in prescriptions like the above when trisnitrate is prescribed.

We suppose that our correspondent dispensed the subnitrate, though either salt would decompose the bicarbonate.

As in the case at issue, the reaction is generally slow of occurrence, and thus frequently escapes the notice of the dispenser who only learns of the result when the liberated gas bursts the bottle. Some dispensers in this case would substitute the subcarbonate for the subnitrate of bismuth, but such material variation from the prescription should not be made without consultation with the prescriber.

It is advisable to mix the subnitrate and bicarbonate in a mortar and pour a little boiling water on them; after effervesence ceases the prescription can be dispensed without fear of explosion.

Volume Occupied by Sugar when Dissolved in Water, in the Preparation of Medicinal Syrups, etc.

J. H. N.—A series of carefully conducted experiments show that when 1000 grammes of sugar are dissolved in 1000 c. c. of water, the volume is increased to 1630 c. c., indicating that the volume of sugar when dissolved in water amounts to 63 per cent. of the weight employed.

From this we must not infer that 100 pounds of sugar will increase the volume of liquid 63 pints, since avoirdupois pounds and wine pints are not commensurate.

Solution without Agitation.

"R."—Solution can be effected with little or no agitation by suspending the substance in a gauze bag, just beneath the surface of the liquid.

As fast as the solid is taken up, the solution descends, and its place is supplied by fresh portions of the solvent; solution is facilitated by the circulation thus created.

Alcohol.

The following note appeared in one of the leading pharmaceutical journals.

"The present high price of alcohol is a great temptation to those who try to make a customer by selling it a little lower than the market rate. We have frequently called attention to the fact that a barrel of alcohol is sometimes short in measure and may accidently contain a little more water than the customer is buying; but an entirely new idea in this line has just been discovered. A large dealer having occasion to suspect a lot that had been recently purchased, redistilled it and recovered five gallons of benzin out of eight hundred of alcohol. An ordinary observer would hardly have detected the presence of benzin as the proportion was not very large. Now, that wood alcohol has been improved so much of late we would not be surprised to hear of it as an occasional ingredient."

This information is extended to our readers for what it is worth. So far as the danger from adulteration with benzin is concerned, we have prepared a sample in the above proportions and have observed that the odor of benzin is readily detected—furthermore, the amount gained is less than two cents per gallon and we can scarcely believe that dealers will resort to this flimsy adulteration for such paltry recompense. The characteristic odor of benzin precludes its use as a diluent for alcohol to any dangerous extent.

Dobell's Solution.

W. C. S.—The formula for Dobell's Solution is given in Remington's Pharmacy, under the head of "Formula of Unofficial Preparations," as follows:

Carbolic Acid	45 minims.
Sodium Borate	60 grains.
Sodium Bicarbonate	60 grains.
Glycerin	1 fluidounce.
Water	q. s. to make 16 fluidounces.

A Sentence Containing the Alphabet.

The following is said to be the shortest sentence in the English language containing all the letters of the alphabet: "John P. Brady gave me a black walnut box of quite small size." The entire sentence contains less than twice the number of letters in the alphabet.

The sentence, "Pack my box with five dozen liquor jugs," contains less letters, and yet omits no letter in the alphabet. It will be seen that the latter sentence contains fifteen less than the former, and has but six superfluous letters.

Show Windows.

The show windows of a drug store offer the best advertising a druggist can wish for; seasonable goods should be displayed therein, and never should they be crowded or allowed to remain in over a week. Attractive window displaying is one of the arts that every would-be successful druggist should study. The windows of a drug store are more noticeable to the public than other classes of business, but when the articles displayed look as if they were crowded into the window for the want of room in some other part of the store, all covered with fly-specks and insect powder, then the display ceases to be attractive. A piece of automatic apparatus in operation never fails to attract attention, as American people like to "see things move."

CHESTNUTS.

One cannot always be a hero, but one may always be a man.

It is always safe to be right, and the truest expediency is simple justice.

If you must chaw terbacker, young man, for heaven's sake chaw old plug; it iz the nastyest.

There are no easy methods of learning difficult things; the method is to close your door, and work.

He says it's unaccountable,
But still the fact is there,
That while his wife was out of town
The parrot learned to swear.

The best philosophers and moralists I hav ever met hav ben thoze who had plenty to eat and drink, and had money at interest.

The first indication of cool weather comes with the man who, after carefully shutting the door all summer, now leaves it wide open.

A practical pharmacist will not rely altogether on his clerk. As a rule, he ought to do the buying himself. There is a great deal made by close buying.

Pure glycerin should not be used on chapped hands or lips. It extracts moisture, leaving the skin dry and more liable to crack. If diluted with water this fault is overcome.

Try to keep clear of prejudice, and be willing to alter any opinion you may hold when further light breaks in upon your mind. He is clever beyond precedent, or weak beyond measure, who never sees reasons to change his judgment of men and things.

"A smart student asked an associate, quickly, to name the chemical salt indicated by the symbol Na_2 before O_7. After allowing his colleague ample time to ponder over the problem, the smart student was obliged to explain that $Na_2B_4O_7$ was the molecular formula for borax.

The oyster is a noble fish,
But cannot swim a mite;
He has no fins, he has no tail,
He has no teeth to bite.

But still he swims with perfect ease;
And yet, 'tis strange to say,
He never glides about the sea,
But in the consommè.

In our efforts to "get square" with corporations and individuals, we are often like "Dennis," who said triumphantly: "Begob, but I've got the best of that murtherin' railroad this time, anyhow." "How's that, Dennis?" asked a bystander. "I've bought a return ticket and I'm not coming back at all, at all!"

"When a man has a chance
To cabbage the pie
In a business transaction,
And lets it slip by,
He's a chump.

When a man wants some votes,
And seriously thinks
He's going to get them
By neglecting the drinks,
He's a chump.

When a man starts a paper,
And says he can run
A great business engine
On a spoonful of mon',
He's a chump."

"He was up in mathematics, had a taste for hydro-statics, and could talk about astronomy from Aristarchus down;
He could tell what kind of beans were devoured by Chaldeans, and he knew the date of every joke made by a circus clown.

He was versed in evolution, and would instance the poor Russian as a type of despotism in the modern age of man;
He could write a page of matter on the different kinds of batter used in making flinty gim-cracks on the modern cooking plan.

He could revel in statistics, he was well up in the fistics, knew the pedigree of horses dating 'way back from the ark.
Far and wide his tips were quoted, and his base ball stuff was noted. In political predictions he would always hit the mark.

He could write upon the tariff and he didn't seem to care if he was called off to review a book or write a poem or two;
He could boil down stuff and edit, knew the value of a credit, and could hustle with the telegraph in style excelled by few.

He could tell how a fire should be handled; as a liar would exercise discriminative taste.
He was mild and yet undaunted, and no matter what was wanted he was always sure to get it first, yet never was in haste.

But despite his reputation as a brainy aggregation, he was known to be deficient in a manner to provoke,
For no matter when you met him he would borrow if you let him, and he seemed to have the faculty of always being broke.

The small boy tackles tobacco first
In solitude back of the barn,
Until his head feels ready to burst,
His brain like a ball of yarn;
His stomach rolls and his eyes are red,
But spite of his woe and pain,
He's pretty certain, if not quite dead,
To try it over again.

A man will tackle John Barleycorn
In every possible way.
His head may feel when he wakes at morn
As big as a load of hay.
His nerves may shake and his eyes lose sight,
And a fog surround his brain.
"The hair of a dog will cure its bite,"
He says—and tries it again.

Correspondence.

PARIS LETTER.

The Character of the Glucosides.—Isolation of the Odoriferous Principle of Rosa Canina.—A New Reaction of the Albuminoids.—New Compounds of the Aromatic Series.—Valerianate of Analgesin and Double Valerianate of Analgesin and Quinine.—Naphthalin Suppositories.—Popularity of Pyridin.

In a recent article upon the characters of the glucosides (*Répert. de Phar.*, November 10th,) M. Bocquillon-Limousin cautions young chemists against errors commonly resulting from the use of certain reagents said to give "characteristic results with the alkaloids," for many of these, such as picric acid, iodide of potassium and of mercury, and tannic acid, likewise precipitate a certain number of glucosides. The writer shows that the chemistry of the glucosides is a complex matter for the analyist, and he advises the chemist not to claim absolute results until after very careful and repeated observation. As he says, some of the glucosides, such as Amygdalin and Solanin, contain azote, while others, such as Arbutin and Esculin, are tertiary compounds. Some, like Caïncin are distinctly acid, while others are—like the alkaloids—precipitable by potash. Of this we have an example in Tanret's Vincetoxin. Hence, says the writer, Kobert errs in saying that the existence of a glucoside in a plant may be recognized by the fact that its concoction gives an acid reaction. The author's method for isolation consists in precipitating the glucoside with sub-acetate of lead, mixing the mass with boiling alcohol, next exposing to a current of hydrogen, and filtering. The alcohol being now evaporated, the glucoside forms in crystals. In plants charged with tannin, free glucosides must be extracted with alcohol; Strophanthin and Euabain are thus prepared. Tanret's method is to treat the plant with milk of lime for twenty-four hours. The mixture is then put into a displacement apparatus, when we may use a dissolvent or reagent, or may coagulate by ebullition and get the uncombined product. Condurangin is thus made. We must remember that while alkaloids dissolve in benzin, ether and chloroform, the glucosides dissolve only in water and alcohol. Under weak mineral acids the glucosides decompose and form new compounds.

Chemists here are experimenting with the seeds of *Rosa canina*, with a view to isolating its odoriferous principle. This is no doubt due—as pointed out last summer by Schneegaus—to the presence of Vanillin. The process of isolation is as follows: The pulverized seeds are exhausted by ether in a reflux apparatus. A portion of the ether is then separated by evaporation, and the residuum is treated by agitation with a solution of bisulphite ot soda, previously saturated with sulphurous acid. The aqueous solution, treated several times with ether to remove the fat, is then treated by an excess of diluted sulphuric acid, and the mixture subjected to a current of air. Treatment with ether, again, removes a brown oil which in a few hours deposits a crystalline mass. The crystals, purified by charcoal, give the characteristic reactions of Vanillin. It seems hardly probable, thus far, that this process will have much commercial value, for the product is quite small.

The *Bull. de la Soc. de Chimie* gives as follows a new reaction of the albuminoids: Albuminoid matters, treated first with an alcoholic solution of benzoic aldehyd, then with an excess of concentrated hydrochloric acid—or equal parts of sulphuric acid and water—and, finally, by a solution of ferric sulphate or perchloride, give an intensely blue color. This is produced slowly under the influence of cold, and rapidly by heat. The reaction is successful with albumens of eggs, serum, casein, fibrin, gluten and legumin.

Pharmacists here are still experimenting in the matter of making new compounds having for their bases the various substances connected with the aromatic series. Possibly they might use their time to better advantage, though it is certain the coal-tar aromatics are decidedly open to any improvements which would improve them in the points of palatability or safety. The latest candidates for approval come from a Charenté pharmacist, who has prepared samples of "*Valerianate of Analgesin*" and "*double Valerianate of Analgesin and Quinine.*" The former consists of a white salt, crystallized in very regular cubes, and very soluble in water. It has a strong odor of valerian, and is not very disagreeable to the taste. It is supposed to be more active than analgesin. The double salt is white and translucent; its crystals consist of long, prismatic needles. It is very soluble in water and in alcohol. Its action is said to be beneficial in neuralgias of the head, face, and intercostal spaces. M. Burie, the inventor of these compounds, will soon make his process public.

Naphthalin suppositories (prescribed for dysentery and ascarides) have had some vogue here of late. They are usually made in accordance with Dr. Minerbi's formula, as follows: Naphthalin, 10. grammes; cacao butter, 10. grammes. Later on, enemata are administered, composed of 5. grammes of naphthaline and 20. grammes of olive oil. These may be repeated 4 or 5 times daily, as tenesmus is apt to be present. For the conditions stated, Naphthalin is said to be greatly superior to corrosive sublimate.

During the summer, pharmacists had some call for Pyridin in various excipients. At present it is prescribed almost exclusively in aqueous solution, and the call is large and increasing. Pyridin has, in fact, grown to be the most popular Parisian remedy for blenorrhagia. Pyridin (6 to 8 drops), 0.30 grammes, distilled water, 90. grammes, is known as "Rademaker's Rapid Remedy." It was first published, I believe, in an Italian medical paper, *La Terapia Moderna*.

LONDON LETTER.

The Impurities of Synthetic Salicylic Acid—The Properties of Para-cresotic Acid—An Annual Conference on Pharmaceutical Politics—Milk of Sulphur, and its Definition in the Law Courts and in Pharmacy.

It is a well known saying, that of the old philosopher: "There is nothing new under the sun;" and whatever we may think as to the appropriateness of its metaphorical expression, there can be little doubt that scientists in particular would do well to remember that it may be a very pertinent reflection upon their own "discoveries."

At the last evening meeting of the Pharmaceutical Society in this city, papers were read on the chemistry and physiology of the impurities of synthetic salicylic acid. The relative merits of the so-called natural and artificial salicylic acids have always been matters of controversy among medical men, and various reports have been published with the design of illustrating the dangerous properties of the acid obtained from phenol. Within the last year or two, however, we have heard fewer specific changes against the syhthetic acid, although there is always a certain class of medical men, and even of pharmacists, who can never disabuse their minds of the impression that a compound made from carbolic acid must be poisonous.

The paper of Prof. Dunstan showed that the only impurity in synthetic salicylic acid as now manufactured is para-cresotic acid, that is, parahydrosytoluric acid bearing the some relation to toluolum $C_6H_5CH_3$ as salicylic acid does to benzolum C_6H_6. Some of this para-cresotic acid was isolated and sent to Dr. Charteris of the Glasgow University for physiological examination. The scientist also read a paper before the same meeting in which he stated that of the three cresotic acids, *ortho- meta-* and *para-*, the first was most poisonous, the second inert, and the third occupies an intermediate position. But from his experiments (he apparently only gave a single dose to one rabbit in each case) it appeared that less than 1 grain of the para-acid, per kilo of body weight, was sufficient to produce death.

Of course, upon this "discovery" of the highly poisonous nature of the impurity which occurs in commercial salicylic acid, many grave remarks were made about the importance of removing it, and a method formulated for effecting this, involving the conversion of the acid into a lead salt, fractional crystallization, and regeneration of the acid.

Now, as a matter of fact, notices had appeared this same year, in a large number of English periodicals (including the official organ of the Pharmaceutical Society) of the use of the sodium salt of para-creasotic acid in medicine as a harmless antipyretic, preferable to salicylate of soda in so far that it was less liable to produce severe congestive symptoms and disturbances of the digestive organs. These were entirely overlooked by our investigators.

Here, then, we see an exemplification of the value of remembering how improbable it is that there is anything new even in science. Professors Demme, Loesch, and others, as mentioned in the extra edition of Helbing's *Pharmacological Record,* (just issued and dealing entirely with this subject), proved that para-cresotic acid can be taken in large doses by both human beings and large dogs, while the lethal dose of the sodium salt for a rabbit is ten grains per kilo, and that of salicylate of sodium, only six grains per kilo is required to bring about a fatal issue. Prof. Demme employed the para-cresotate, in fairly large doses, with success as an antipyretic in the treatment of thirty-two cases of children's diseases.

It is worth mentioning that the whole research was apparently conducted with undue haste, and the papers were not published in the next issue of the official organ as usual, but delayed a week. There appeared also a foot note, *not* read at the meeting, which contained a contradiction of the statement made in the paper that salicylic acid containing any of the cresotic acid could not be obtained in large crystals. The authors, Prof. Dunstan and Mr. J. F. Bloch, stated in the note that, since the reading of the paper they had found that an acid in such large crystals might contain two per cent of cresotic acid; but added that as the macrocrystalline form was to some extent, at least, a guarantee of purity, it might be specified in a Pharmacopœial description; it seems further that the presence of so small a proportion of foreign acid as that indicated above, lowers the melting point to 155.1° C., while this factor for the pure hydroxybenzoic acid, found by B. Eischer and confirmed by the authors, is 156.76.

Our Pharmaceutical Conference, as at present conducted, is purely a scientific gathering with the nature of which your readers will be familiar from the description given in these letters for October. It appears, however, that one of the objects of its institution was to unite the members of the trade in various parts of the country by a common interest in the social and political aspects of pharmaceutical life. As the B. P. C. has failed to effect this, Mr. G. F. Schacht, one of its founders, has mooted the idea of instituting another yearly gathering, which is to supply the want untouched by the present September meeting. Concerning the exact nature of the projected innovation, one cannot do better than quote Mr. Schacht's own words at the last meeting of the Council. "Gentlemen," he said, "might be asked to meet together in some convenient centre, and the proceedings, occupying one or two days at the most, limited to pharmaceutical politics. In the evening, it might be possible to hold a reunion of not too convivial a nature, stamped with a scientific character." This latter is apparently to be given by the presence of a lecturer who can discourse on some subject of current interest. Something will at any rate be done in this direction, as the subject is under definite consideration by a Committee of the Pharmaceutical Council, which has to report on the subject at some future meeting.

A substance known as lac sulphur, or milk of sulphur, has always been a favorite domestic remedy in this country, though one in which the combination known as "brimstone and treacle" was not regarded as a delicacy by the younger members of an earlier generation. In the first instance, *i. e.* some two centuries since, milk of sulphur was made by precipitating a solution of polysulphides of calcium with hydrochloric acid; but about the middle of the 19th century it began to be made by using sulphuric acid in the place of hydrochloric, and consequently the product contained about half its weight of sulphate of calcium. However it was this mixture of sulphur and sulphate of lime which made for itself a reputation as a popular remedy and though the Pharmacopœia only recognizes a "sulphur præcipitatum" made by the hydrochloric acid process, yet there can be no doubt that in some parts of the country the people refuse the B. P. article, which, they complain, will not mix with water, and ask for the old lac sulphur.

Now the inspectors, who under the provisions of the Food and Drugs Act are always wandering up and down the earth seeking whom they may (metaphorically) devour, chanced some years ago upon the fact that lac sulphur was not officially recognized, and endeavored to entrap the unwary pharmacist who sold it. Happily it was decided *ex cathedra* that if the public asked for for milk of sulphur they might be supplied with the old lac sulphur, and the inspector retired baffled. Recently cases of the same kind have again been brought before the magistrates, but in these instances "precipitated sulphur" was asked for, and milk of sulphur supplied—a proceeding which of course cannot be justified. The pity is that the lay press has most truculently assailed the unhappy chemists who fell into the error alluded to, and charged them in the most extravagant language with adulteration of the worst kind.

PHARMACEUTICAL NEWS FROM GERMANY.

Koch's Treatment of Tuberculosis—Cure by Inoculation and the Prospects of Pharmacy—The Arzneibuch Attacked on a New Side—The Chemistry and Physiology of Another Apocynaceous Drug—The Poisonous Nature of Uranium Compounds.

It is a good deal to be regretted that so much hysterical excitement has been manifested, even in the lay papers, concerning Dr. Koch's treatment of tuberculosis.

The result has been that the most extravagant impressions have got about as to the infallibility and certainty of the cure, and a very large number of medical men and patients have flocked to Berlin, where the former certainly cannot all learn the method of treatment or be supplied with the remedy, while the hospitals are incapable of accommodating the latter. As a matter of fact, the virtue of the clear brownish fluid (very probably a solution of one of the "toxines" formed by the action of the tuberculosis bacillus in culture media) which is subcutaneously injected, has, so far, only been satisfactorily demonstrated in the treatment of the scrofulous and ulcerative forms of lupus, and in that of certain kinds of tuberculosis of the bones and joints; no weighty evidence has been adduced as to its power to cure pulmonary tuberculosis. As, however, all persons with a phthisical taint exhibit marked symptoms of functional derangement after the injection, while those free from tuberculosis are unaffected, the procedure will possibly have a diagnostic value. A pamphlet has just appeared by Dr. Damm of Wiesbaden, in which Prof. Koch's method is severely criticised, mainly on the ground that it deals with organs instead of restoring the nervous system.

It is, perhaps, a sign of the times that there is a class of "apotheker" in this country which cries out in tones of solemn warning that Koch's discovery will endanger the existence of the pharmacist! This is because it has been announced that not only consumption, but cholera, anthrax, diphtheria, typhus, and the whole host of infectious diseases (including syphilis) can also be cured by mere inoculation, so that, alas! say the pharmacists, a number of severe and often lasting diseases will be arrested by Koch's remedies, and oh! what will become of us and our stock of good old drugs?

Of course there is some element of possibility in all this, but the effects of Koch's discovery, even if it accomplishes all that is expected, will only tend to further a revolution already commenced. Drugs have to retire more and more into the background now that electricity, hypnotism, suspension, massage, cold water, mineral water baths, and other "natural" methods of treatment, are employed for a large number of diseases. The pharmacist of the future will evidently have to develop the retail trade department of his calling, and content himself with dispensing remedies for the little daily sicknesses that will last as long as mankind. The process of this species of evolution from dependence on drugs, will, like all other developments, be slow, and no doubt pharmacy will have time to adapt itself to the change if necessary.

A most singular attack upon the new "Arzneibuch" is made by Prof. Flückiger in a recent number of the *Pharm. Zeit.* Dismissing for the nonce all criticism of the matter, scope, arrangement, etc., of the work, he confines himself to pointing out the absurdities of the name selected for it, and of the type used in printing it. The Professor is unable to see what advantage the "Arzneibuch" has over "Pharmacopœia," and inquires sarcastically if Benzinum petrolei, Bromum calcaria chlorata, are *arzneien* (medicines). He further points out that all the Pharmacopœias of cultured countries are printed in Latin type, except the Russian, Greek, and German, and asks if there be any distinction in finding ourselves in such company; and finally concludes with the sacrilegious suggestion that a tastefully printed and elegantly got-up edition of the Arzneibuch should be upon the market!

The Natural Order Apocynaceæ seems to be rich in plants containing physiologically powerful principles. One of the earliest important drugs referable to that family was Strophanthus, which proved to be a really useful addition to Materia Medica. Another substance recently newly examined in the Pharmacological Institute of Prof. Kobert, is *Urechites*, (from *U. suberecta*), belonging to the order named above.

Like several other members of the Apocynaceæ, Urechites is employed in the preparation of an arrow poison, and for this reason was expected to prove an interesting pharmacological study. The leaves of the plant are dark-green, opposite, petiolate entire, and somewhat acute; like all green parts of the plant, they have an intensely bitter taste, and cause the mucous membrane of the mouth to swell more or less.

Twelve years ago the leaves were examined by J. J. Bowrey, who isolated from them three active principles. The later investigation was carried out by M. Minkiewicz, who obtained the fresh material from the well-known American house, Messrs. Parke, Davis & Co. He extracted a glucoside and a non-glucoside, neither of which could be obtained in a crystalline condition. The glucoside was dark brown, with an unpleasant odor and bitter taste; the other body was resinous yellow, with an odor resembling vanilla and an intensely bitter taste.

Physiological experiments showed both to be poisons of the same kind, the only difference being in intensity of action. Nausea, salivation and diarrhœa precede general weakness, loss of coördinative power, sleepiness, slowing of the pulse and dyspnœa; death is ushered in by rigors and arrest of the heart's action. The heart is paralyzed through the effect of the drug on the cardiac vagus.

Atropine, digitalis and helleborein have been tried as antidotes, but without success; nor is curare, stated in 1885 to be a physiological antidote by Oorwinkel, any better.

The results of the trials of Urechites upon animals was not considered by Kobert to indicate any action which would be serviceable in disease, or at least more serviceable than other well tried remedies. Perhaps it might answer as a substitute for ipecacuanha, but is too poisonous for general use.

An interesting physiological examination of Uranium has also been made by Prof. Kobert. Some preliminary statements on the subject were made at the International Medical Congress (DRUG. BULL., Vol. iv, No. 9, p. 307). He chiefly used a *double Tartrate of Sodium and Uranium*. It is perhaps scarcely necessary to remind your readers that this metal belongs to the chromium group which also includes molybdenum and tungsten. From previous studies of the action of Uranium in combination, it appears that its action is chiefly upon the Urinary system.

Prof. Kobert's experiments showed that the compounds of Uranium are exceedingly poisonous; a man of 120 to 140 lbs. would be killed by from ¼ to 2 grains of the *oxide* (UO_3) given subcutaneously. It is noteworthy that small doses produced death almost as rapidly as large quantities, though the symptoms are not so intense or pronounced. The *Nitrate* and *Acetate* of Uranium are intensely corrosive, and if taken *per os* produce gastro-enteritis and hæmorrhagic nephritis. Death is ushered in by general paralysis.

From the action of other metals, that of Uranium is distinguished by directly producing changes in the vascular tissue of the circulatory system; at the same time it alters the condition of the blood and prevents its oxygenation. These changes are, of course, followed by disturbances in the nutrition of the tissues, and are probably the cause of the glycosuria, which temporarily follows Uranium poisoning. Perhaps it is well that Uranium compounds are not familiar articles of commerce, as they seem to be sufficiently dangerous to call for restrictions upon their use and sale.

NEW YORK LETTER.

Dec. 5th, 1890.

The marked feature in the drug trade of New York during the past month, has been absolute stagnation. The approach of stock-taking, however, together with the stringency in the money market, has the effect to cripple purchases in every direction. True, there are anxious sellers, as money is close, but the trouble has been to find buyers. No improvement is looked for before the close of the year; all hands, therefore, must content themselves with accepting such orders as come along, and furthermore, by accepting such prices as they may be able to obtain. All who study our commercial papers must have noticed that in spite of this light demand, decline in prices has been the rule. There could not be a firmer proof of this than throughout almost the entire range of articles dealt in by the drug trade. The very bottom in prices has been reached.

In my last communication, the expressed intent of Lazell, Dalley & Co. to withdraw from the jobbing trade was announced, and at the same time hint was given that a prominent jobbing house of Philadelphia was also about to withdraw. Since that time, French, Richards & Company, possibly the oldest drug house of the "Quaker City" have publicly announced their intention to liquidate. This surely should give opportunity to the few remaining jobbing druggists of Philadelphia to largely increase their business, and at the same time to adjust their trade upon a better paying basis. Let us hope that such will be the case.

While there is but little of interest that can be given in detail concerning changes in prices during the month, the following items may prove of interest to your readers:

Opium.—A steady downward tendency in the price of this article is to be observed. The difficulty of obtaining money has, perhaps, had something to do with this, although in all probability the chief reason is that reports from Smyrna are to the effect that a very abundant crop will be produced this year. Furthermore, the available supply in the market of the old crop is very large, consequently it would not be easy for holders to accomplish any advance in price.

Almost the same remarks may be made concerning *Quinine.* During the present week ten thousand ounces were exposed at auction of "B. & S." brand. The advertisement for the past few days in the market that this amount of quinine was to be offered at auction, had a depressing effect, but when the sale was made it was found that there were plenty of ready buyers at only ½ cent per ounce less than the current market price. This is out of the way, and while no very important advance in prices need be looked for, it is generally believed that its price will be more stable and somewhat higher.

Another feature is that during this past year the amount of quinine brought to this country from abroad is as nearly as possible 50 per cent. in advance of that of last year. This very large stock, and (so far as the latter part of the year is concerned) the light demand, has doubtless had a great deal to do with keeping the prices depressed.

Coca Leaves.—This article is in exceedingly light stock, and we are advised from South America that the crop has been very badly damaged, so that but a limited supply can be expected from the present gathering. The result is that cocaine has met with marked advances in value, and still higher prices must be anticipated. There can be no doubt of the wisdom on the part of users of coca, or any of its preparations, in laying in a supply sufficient to last them for some time to come.

Cod-Liver Oil, (Norwegian), has advanced very materially abroad, although the general dullness of trade has prompted some holders, who are short of capital, to unload it at such prices as they could obtain; for this reason the price has ranged somewhat low. This condition of things, however, must cease, when the active winter demand comes on, and very much higher prices may be looked for.

Ergot is reported in very short stock abroad. This has particular reference to Russian ergot. The supply of the Spanish article is about as usual, but as the principal consumption is of the Russian variety, it may be anticipated that the price must considerably advance.

Guarana, owing to the arrival of a new crop, is beginning to decline in value.

Lupulin.—The German variety has already advanced fully 100 per cent., and we are advised that still higher prices must be expected later on.

Sugar of Milk is not as firm in price as a month ago. There seems no good reason for this, unless it be that the excitement that prevailed just before the imposition of a duty under the new tariff took place resulted in laying in very large stocks, though many weak holders who were compelled to realize, forced the market down somewhat. It however cannot last.

Menthol.—Is in exceedingly light stock, as advised in my last communication, and lower prices must not be looked for.

Oil of Peppermint.—Speculators in this article have failed to sustain the price. It is weaker, and is generally believed that lower prices will prevail before the end of the season. Buyers should be careful.

Arnica Flowers.—Have attained a price higher than the writer has ever before known. The stock for the year is exceedingly small and closely concentrated. It is held by but few, and there is no disposition, as really there is no reason, to release themselves from their holdings at present prices.

Ipecac Root.—Supplies have come in but lightly. The demand as is usual at this season of the year is large; therefore the high prices reported in my communication ot last month, have been fully sustained.

Golden-Seal Root.—Now that the collection has ceased, it is found that the crop was not large, and therefore the market is somewhat firmer on this article.

Mexican Products are coming in more freely, and prices are declining somewhat, although with relation to jalap and sarsaparilla, high prices still maintain.

Insect Powder should receive very careful attention at the hands of buyers. Although the cost of Dalmatian flowers is lower this year than for a long time past, the habit of adulteration on the part of many during the season of high prices, warrants a warning to all users of this powder, that great care should be taken in the examination of all deliveries before they are offered for sale. At present the price of insect powder, strictly pure and uncolored, is cheap enough, so that the retailers of the article can make a satisfactory profit on their sales, and there is no excuse even on the part of those who may be inclined for the sake of profit to accept adulterated goods, to satisfy themselves with such trash now. Pure powder can be obtained, and if retailers who supply this to users, would only take the trouble to post themselves in the matter, they could easily learn to identify a pure article.

Book Reviews.

Kew Gardens' Bulletin. Nov., 1890.

This number only contains two papers, but both are interesting as to contents. The first of these, on "Liberian Coffee," reviews the experiments which have been, and are being, made with *Coffea liberica*, Hiern. Some of our readers may not be aware that the cultivation of the ordinary species, *C. arabica*, Lin., is being discontinued in Ceylon, Madras, and other districts on account of the ravages of fungus and a "borer" insect. The stoppage of supplies from these channels has stiffened the prices of the general London market, and stimulated research for acceptable substitutes among the other species of the genus. The result is that the African plant mentioned is being successfully introduced and cultivated in districts where coffee-growing had been discontinued owing to previous total failures of the crop. The report gives in detail the several points of advantage, the different treatment the fruit requires, etc., and informs us that "at the present moment the tide of opinion in the planting world has set somewhat in favor of Liberian coffee." "Cola Nut" is the title of the other paper; it is a summary of all the present recorded information regarding the source, distribution, economic uses, etc., of the plant and its fruit, most of which has appeared in this and other pharmaceutical journals. Viewing the introduction of Cola (or Kola, as we generally spell it) as a beverage in the Europeon armies, there appears to be a future in store for the article. Since its dietetic value is no doubt primarily due to caffeine, it is interesting to be reminded that its proportion of that substance "is higher than that observed in any coffee or, except in rare instances, in tea," and that "the small quantity of tannin contained in cola nuts, as compared with tea and coffee, may be an advantage from a dietetic point of view," and also, comparing with cocao, another point of superiority consists in "the absence of the large proportion of fat which it is necessary to remove from cocao beans during the process of manufacture." No wonder that we read in the market reports that "Kola nuts still continue to rise in value."*

Zoe: a Biological Journal. Zoe Publishing Company, San Francisco. $2.00 per annum.

We have just had the pleasure of seeing for the first time a copy of this new caterer to the world of science. The typographical appearance of the journal is creditable. It appears to aim—owing doubtless to locality of publication—at being specially representative of the natural science of the Pacific Coast, but it is not exclusively so. The articles of the number before us (September) vary in style and scope from the purely scientific to the popular descriptive, embracing the following subject matter: Malacology—Fresh-water Mollusca of San Francisco County, by J. G. Cooper; Botany—A New Fern from Lower California, by D. C. Eaton; Sequoia Forests of the Sierra Nevada, by F. J. Walker; Notes on Naturalized Plants of Southern California, by S. B. Parrish, etc.; Entomology—Double Broods of Argynnis Calipe, by H. H. Behr. We are informed in one of the minor articles—Rattlesnake Antidotes, by F. H. Vaslit—that "a third Pacific Coast plant has put in a claim as an infallible cure for rattlesnake bites;" if the author had said "thirtieth" instead of third, he would have approached to the number of plants that have been called to our attention as infallible cures from California and adjoining States. We are skeptical in the matter of these remedies; either the rattlesnake bite is not poisonous to the extent supposed, or else some very common principle of vegetation, such, for instance, as chlorophyll, must be the curative agent.

---

* *Chemist and Druggist*, Oct. 4th, 1890.

West American Scientist, August, 1890.

A small but readable magazine devoted to natural history in all its branches. A biographical notice of the late Matthew Cooke, "the self-made naturalist" of California; Climate of Pacific Beach and its Effects; Coloration of Fishes; Fauna and Flora of Colorado, VI (Coleoptera in part); and Land Mammals of San Diego, are the leading articles of the present number. An essay by the editor, "About Herbariums," gives excellent advice to those gathering specimens with the view of permanently placing them in herbaria, but some of it is equally appreciable to those who occasionally send us material for identification. Those correspondents, for instance, who wish a plant or part of a plant named, and who evidently try to see how small a piece they can put into an envelope, just so as not to make it altogether invisible to the naked eye, will do well to remember the sentence which we quote from this article: "Each specimen of a plant should be made as complete as possible, showing the root, stem, leaf, flower, and fruit." Be as liberal as possible; if a root is large, a section of it will be better than to omit it altogether.

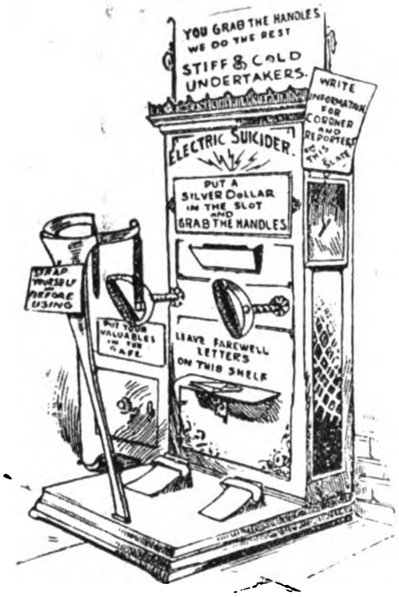
Pharmacographica Indica. A History of the Principle Drugs of Vegetable Origin met with in British India. By W. Dymock, C. J. H. Warden, and D. Hooper. Part III. London: Trübner & Co. 1890.

This comprehensive work is making rapid progress, the part before us bringing the matter (arranged by natural orders) well through the Compositæ. We do not think any one can afford to miss the opportunity of securing the book for his library if he wishes to possess a reference to so large a section of the world's materia medica.

Facetiæ.

AUTOMATIC ELECTRIC SUICIDER.

Apropos of a wave of suicidal mania which recently swept over the country, one of the daily papers makes the following ingenious suggestion for the utilization of the penny-in-the-slot idea:

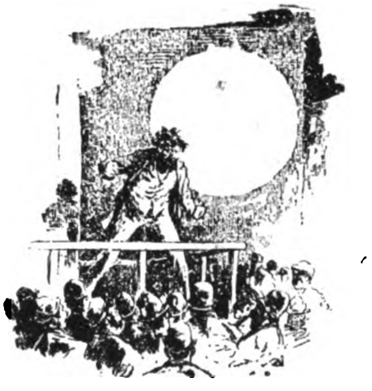

YOU GRAB THE HANDLES
WE DO THE REST
STIFF & COLD
UNDERTAKERS.
WRITE INFORMATION FOR CORONER AND REPORTERS ON THIS SLATE
ELECTRIC SUICIDER.
PUT A SILVER DOLLAR IN THE SLOT AND GRAB THE HANDLES
STRAP YOURSELF IN BEFORE USING
PUT YOUR VALUABLES IN THE SAFE
LEAVE FAREWELL LETTERS ON THIS SHELF

-*Druggists' Circular.*

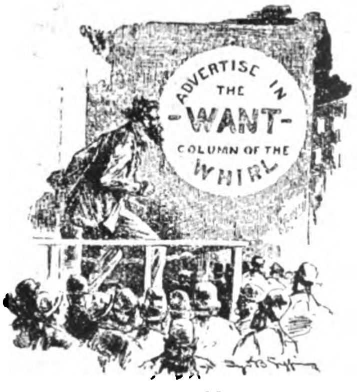
McMackin: Didn't yez phromise me th' p'sition av dog drownder if I supported yez?

Alderman O'Fenelly: Oi did not.

McMackin: Hiven bless th' phunograph! Listen t' th' wur-ruds yez said."—*Judge.*



Labor Agitator.—What we want is arbitration! What we want is recognition! What we want is ther sympathy of ther public! Now, how er we goin fer git ut?


ADVERTISE IN THE -WANT- COLUMN OF THE WHIRL

The Stereopticon Man Makes a Suggestion.—*Puck.*

The Lady:—I want a little arsenic,
"Yes, miss; complexion or suicide.—*Life.*

VAS MARRIAGE A FAILURE?—By Charles Follen Adams (Yawcob Strauss).

Vas marriage a failure? Vell, now, dot depends
Altogeddher on how you look at id, mine friends.
Like dhose double-horse teams dot you see at der races,
Id depends pooty mooch on der pair in der traces;
Eef dhey don'd pool togeddher righdt off at der shtart,
Ten times out off nine dhey vas beddher apart.

Vas marriage a failure? Der vote vas in doubt;
Dhose dot's oudt vould be in, dhose dot's in vould be oudt:
Der man mit oxberience, good looks und dash,
Gets a vife mit some fife hundord dousand in cash,
Budt, after der honeymoon, vhere vas der honey!
She haf der oxperience—he haf der money.

Vas marriage a failure? Eef dot vas der case,
Vot vas to become of der whole human race?
Vot you dink dot der oldt "Pilgrim faders" vould say,
Dot came in der *Sunflower* to oldt Plymouth bay,
To see der fine coundtry dis peoples haf got,
Und dhen hear dhem ask sooch conondhrums as dot?

Vas marriage a failure? Shust go, ere you tell,
To dot Bunker Mon Hillument, vhere Varren fell;
Dink of Vashington, Franklin, und "Honest Old Abe"—
Dhey vas all been aroundt since dot first Plymouth babe.
I vas only a Deutscher, budt I tells you vot!
I pelief, every dime, in sooch "failures" as dot.

Vas marriage a failure? I ask mine Katrine,
Und she look off me so dot I feels pooty mean.
Dhen she say: "Meester Strauss, shust come here if you blease,"
Und she take me vhere Yawcob und leedle Loweeze
By dheir shnug trundle-bed vas shust saying dheir prayer,
Und she say, mit a smile: Vas dhere some failures dhere?"

"THOU SHALT NOT KISS."—

Tell me not in scientific
Pages, such a tale as this,
That diseases most terrific
Gain diffusion by a kiss.

Kissing's real, kissing's earnest,
Though the vile bacillus lurk
In the kiss that thou returnest,
Trust me, Damon will not skirk.

Vain the doctor's abjuration,
Phyllis lightly to me trips:
If there's death in osculation
Let me take it from her lips.

Kissing is by Nature taught us.
Kiss the girls, then, when they come,
Though a kiss be *vide Plautus,*
Acherontis pabulum.

Abstracts and Translations.

Medicated Waters.*

In accordance with the request of this Society, I today present a report of a series of experiments on medicated waters, and also show samples of the same. Pressure of business prevented me from extending my investigations to the full line of the waters used in the pharmacy or ordered by the Pharmacopœia, but enough has been done to show what the results would be with the ones omitted.

The subject of medicated waters has received considerable attention from pharmaceutical workers for many years past, and their criticisms induced the revisors of the Pharmacopœia in 1880 to change the practice of more than half a century in the manufacture of these preparations. The new process has not met with the favor expected of it, for, as far as I can learn, but very few druggists prepare their waters according to the newer Pharmacopœial method, while with some it has provoked open opposition, being designated by them as the "cotton-picking business."

As the time is at hand for another revision, it is well for us to examine the different processes to see if a formula cannot be selected that will give, with but little trouble to the busy druggist, a strongly impregnated water suitable for medicinal use.

The process of distilling the drug with water is conceded by all to furnish the best product for flavor and fragrance, yet it will not be, as it never has been, accepted by the druggists of this country. The majority of them have not the appliances for distillation, and they believe the gain is too small, for the importance of these waters is not great enough to compensate for the time required to prepare them in this manner. The compilers of the Pharmacopœia recognized this, and since 1830 have discarded this process, and in its place, until 1880, authorized the rubbing of the volatile oil of the drug with carbonate of magnesium, so that it would be brought to a fine state of subdivision, and thereby a larger portion be taken up by the water. That this gave pretty general satisfaction, is evidenced by the length of time it remained official; but the fact that a portion of the magnesia was dissolved by the water and was liable to decompose the salts of any alkaloids that should happen to be prescribed with the water, made the Pharmacopœia Committee ten years ago decide to change to cotton.

It is doubtful if the danger was great enough to warrant this, for certainly we have heard of no serious results in the many years that carbonate of magnesium was authorized; the change was so radical, and the new process so unclean, that it is not wonderful the majority of druggists will not accept it. It is one among other things that has led the druggists to speak lightly of the 1880 Pharmacopœia and to avoid it. The old formula was easily and quickly prepared; sometimes it could be done while the customer was waiting for the prescription. With the cotton process, that would not be practicable.

Various substances have been proposed to take th place of carbonate of magnesium, viz.: Powdered glass, pumice stone, phosphate of calcium, talcum, etc., but none have given as much satisfaction, except possibly talcum. Dr. Charles O. Curtman, of St. Louis, made a number of experiments, which he published in a paper read before the American Pharmaceutical Association in 1887. He found that talcum was unobjectionable and made a very strong water. It is questionable whether this substance is not liable to the same objections as the carbonate of magnesium, for it is also slightly soluble in water. Glycerin has been proposed to be rubbed up with the oil, and the water added. This, as will be seen by referring to the samples, gives a fairly good result. As it possesses but little solvent power on volatile oil, its virtue consists simply in keeping the oil divided by its viscosity until after the water is added, but after that the most of the oil can be seen floating on top or lying at the bottom of the mixture.

Probably the best method, and the one that approaches the nearest to distillation without its trouble, is the use of boiling water to dissolve the oil. The latter is dropped on blotting or filter paper or paper pulp, in a bottle, and hot water poured upon it, or it may be put into the hot water without the aid of paper, the mixture well agitated from time to time until it is cool, and then filtered. This is a very easy and cleanly process, and furnishes a very satisfactory product.

To sum up, I think that for quickness of manufacture and strength of product, the old process with carbonate of magnesium cannot be beat; for convenience and strength, and absence of danger of decomposition of alkaloids, the hot water process should be adopted. Glycerin would rank next. As for distilling, I do not think that method is at all practical for the retail pharmacist, and I am positive it would not be practiced by them. It might be a good thing for the wholesale manufacturer, for if that process is made obligatory, and a penalty attached for departing from it, the majority of retail druggists would purchase their supplies rather than make them.

For camphor water, either the old (1870) process or the new one (1880) will have to be chosen.—*Druggists' Circular.*

Antiseptic Gauze.

Since the introduction some twenty years ago by Professor Lister of carbolized gauze as an antiseptic dressing in the treatment of wounds, the use of such preparations has enormously increased. Antiseptic muslins may be divided into two classes: Firstly, those which are prepared by dipping in a fused mixture which on cooling solidifies in and over the fibres of the gauze; secondly, those which are prepared by dipping in a solution and drying, whereby the fibres become charged with the antiseptic which had been held in solution. Carbolic and eucalyptus gauze belong to the first-mentioned class, while iodoform and the double-cyanide gauze belong to the second. Notwithstanding the fact that novelties have been introduced from time to time, some of which have enjoyed an ephemeral existence, while others still

---

*** Read before the Kings County (N. Y.) Pharmaceutical Society, by William P. DeForest.**

maintain a certain amount of favor, there is not the least doubt that carbolized gauze still "holds the field." It is prepared by dipping (by means of appropriate machinery) a light muslin in a fused mixture of paraffin, resin and carbolic acid. I may state here that I do not altogether follow Mr. Helbing's remarks (*Pharmacological Record*, July, 1890) on the subject under discussion. A gauze which has been charged with a resinous mixture cannot possibly have much absorptive power for an aqueous discharge; and even a gauze which has been impregnated by means of a solution must have its absorptive power seriously diminished. Where it is necessary to absorb a copious discharge, antiseptic tow or wool must be employed. It need hardly be said that the value of an antiseptic gauze does not depend on the quality of muslin used, but on its containing a sufficient amount of the active ingredient. A cheaper form of muslin is now in use than formerly, for the simple reason that the old material was unnecessarily expensive, and tended to increase the accounts of hospitals beyond what was desirable. I do not at all agree that it would be advisable to place antiseptic and other surgical appliances in the Pharmacopœia. The proper remedy for a defective preparation is to get the article from a house of good repute and to insist on a reasonable standard of excellence. It is impossible to melt the carbolic mixture without a certain loss of carbolic acid, and before the muslin is folded and packed that loss has been increased. Still, there can be no doubt that a minimum content of carbolic acid should be agreed upon. The carbolic acid in gauze can be estimated by treating a weighed portion with successive quantities of boiling water, allowing to cool, filtering, adding slight excess of bromine-water, collecting the tribromophenol, drying the same in exsiccator, and weighing—331 parts of the dry precipitate are equal to 94 parts pure carbolic acid. The value of the carbolized muslin is supposed to depend on the continuous evolution of carbolic acid rendering the atmosphere in the immediate neighborhood of the wound aseptic. Other substances which are, or have been, used in the preparation of antiseptic gauze are thymol, "sanitas," sal-alembroth, "sero-sublimate," and the so-called cyanide of zinc and mercury. The advent of the sero-sublimate was heralded with a good flourish of trumpets, but it seems now to have faded in favor. It is prepared by dissolving corrosive sublimate in the serum of horses' blood, and saturating the gauze therewith. Its value depends on the fact that, in presence of excess of albumen, mercuric chloride to a great extent loses its irritating properties, while still retaining its antiseptic power. From all I can learn, the double cyanide has hardly borne out its early promise, and the perfect antiseptic gauze is still a thing of the future. Possibly perfection will be attained, not by means of new preparations, but by better methods of applying those presently in use.—D. B. Dott in *Chemist and Druggist.*

Freezing of Colloidal Solutions.

The investigation of Pfaff, Geiger and Payen on the freezing of colloïdal solutions have been overlooked by subsequent investigators of colloïdal solutions, especially Graham and Van Bemmelen. The author finds that from some of such solutions the substance dissolved is completely or partly separated after freezing, whereas in the case of others the precipitate again passes into solution. A solution of colloïdal silicic acid, obtained by mixing soluble glass with hydrochloric acid in aqueous solution, was divided into two parts, one of which was exposed to a temperature of 7–10° for two days, after which it was exposed to a temperature of the laboratory (+15°) for two days. From the frozen solution as much as 96.96 per cent. of the silica was separated by filtration, whereas the original unfrozen solution yielded 0.72 per cent. of insoluble silicic acid. This is not in contradiction with Graham's statement, that the stability of a colloïdal solution of silicic acid increases with decreasing temperature, for, according to Graham, more concentrated solutions are more easily coagulated. Indeed, on freezing, gradual concentration takes place, owing to the separation of ice, so that the coagulation is accelerated. A colloïdal solution of antimony tri-sulphide was prepared by Schulze's method, namely, saturating a solution of one part of tartar-emetic in 200 parts of water with hydrogen sulphide. Nothing separated from the original solution, even when it was allowed to remain for months at the ordinary temperature; whereas from the same solution, after exposure to a temperature of — 6° for twenty-nine hours, and subsequent thawing of the ice, complete separation of the antimony sulphide took place. When a very large quantity of the same solution was exposed to a low temperature, the separation was not quite complete. A colloïdal solution of copper sulphide was obtained by the action of hydrogen sulphide on copper glycollate. The separation of the sulphide was incomplete, although the solution was kept one day at — 6° and one day at — 19°. Nothing separated out at the ordinary temperature. Colloïdal solutions of ferric hydroxide, obtained by the dialysis of different preparations of basic chloride, sometimes remain uncoagulated by freezing, sometimes are partly coagulated. This depends on the purity of such solutions, and partly, perhaps, on the rate of cooling. Solutions of potassium ferric tartrate behave in a similar manner. One part of starch was dissolved in 100 parts of boiling water, and the solution was kept at a temperature below zero; flocks separated, as shown already by Payen, but the separation was incomplete. It was found that starch solutions which had been subjected to freezing are much more easily and quickly filtered than the same solutions not frozen, so that this process might be used for the better filtrations of slimy liquids and precipitates. Neither white of egg nor milk is coagulated, even on freezing at — 15° to — 20°. The fact that peat falls to pieces after being frozen is explained by the author on the assumption that it contains colloïdal substances, which are coagulated by freezing.—N. Lubavin.

Reference Tables for Microscopical Work.

The following tables have been in great part translated and adopted from Dr. Behren's "*Tabellen zum Gebrauch bei Mikroskopischen Arbeiten.*" They address themselves especially to workers in the various departments of microscopy where such aids to the memory may be helpful in every day work. The methods given are such as have received the approval of many of the best workers at home and abroad. A glance at the tables will generally give all the information necessary to any one fairly familiar with micro-manipulation, and while they do not aim at replacing the large and more complete works, it is hoped that they will prove useful on the work table of microscopists generally.

PRESERVATIVE AND MOUNTING MEDIA.

Alcohol-glycerin: Glycerin, 96 per cent.; alcohol, water, equal parts. Specially recommended for plants, entire or in parts.

Canada balsam in alcohol, chloroform, benzol, turpentine, xylol: The balsam is hardened by low heat until brittle when cold, broken up or pulverized, dissolved in the solvents, filtered through paper and evaporated until of the thickness of syrup.

Boroglycerid: Dissolve as much boracic acid in warm glycerin as possible. The solution is thick when cold; used for mounting animal or plant preparations in the same way as balsam.

Canada balsam: The thick balsam is heated, and the mounting done on the warm table; the object must first be soaked in absolute alcohol, then in oil of cloves.

Glycerin and carbolic acid: Glycerin, 100 parts; absolute alcohol, 50 parts; water, 50 parts; carbolic acid, 3 parts. For plant sections, etc.

Chloride of calcium: Concentrated or 33, 25, 12 per cent. For vegetable preparations, etc.

Dammar: Dissolve gum dammar in equal parts of benzol and turpentine; the solution is filtered and evaporated to syrupy thickness.

Farrant's medium: Gum Arabic, glycerin, water, of each 1 ounce; arsenious oxide, 1½ grains. Dissolve the oxide in water, then the gum, without heat; when entirely dissolved add the glycerin; take care not to form bubbles; can be filtered through fine flannel. Specially recommended for delicate plant or animal tissues.

Glycerin: Concentrated or diluted with water, to which may be added a few drops of acetic or carbolic acid. For vegetable or animal preparations.

Glycerin jelly: Glycerin, 120 parts; water, 60 parts; gelatin, 30 parts. Dissolve the gelatin in warm water, add the glycerin, filter, if necessary, through flannel. All forms of glycerin jelly must be used warm. For vegetable and animal tissues.

Deane's medium: Similar to glycerin jelly, but with the addition of honey and a small quantity of alcohol. Used in place of glycerin jelly.

Glycerin-salicylic vinegar: Glycerin, 1 vol.; water, 4 vols.; salicylic vinegar, 0.1 vol. For infusoria.

Glycerin-salicylic vinegar for larvæ, hydra, nematodes, etc.: Glycerin, 1 vol.; water, 2 vols.; salicylic vinegar, 0.1 vol. *Salicylic vinegar* is made by dissolving 1 part salicylic acid in 100 parts pyroligneous acid, sp. gr. 1.04.

Goadby's medium: Corrosive sublimate, 1 grain; alum, 240 grains; boiling water, 21¼ av. oz.—A. B. Aubert, in *The Microscope.*

On the Medicinal Value of Pomegranate Bark.

In *N. Tijdsch. v. Phar., Chem., Toxicol.*, Oct., 1890, Professor W. Stoeder, of the University of Amsterdam, Holland, gives the following information concerning the use of pomegranate bark by the natives of the East Indies (Java):

The natives prefer the bark of the root of trees with white flowers, to expel tænia. There is also a variety with black flowers. Trees with red flowers are, however, in Java, the most common, as is the case in Europe. On submitting the root-barks of the three varieties to the assay process of the Dutch Pharmacopœia:*

The white-flowered variety yielded 3.75 per cent. of hydrochlorates.
" black " " " 1.71 " "
" red " " " 2.43 " "

I take pleasure in bringing these observations of Professor Stoeder to the notice of the pharmaceutical chemists of this country, and at the same time desire to direct attention to a statement of mine, made some years ago (see *Hager, Phar. Praxis*, Erg. Bd. p. 503), that experiments made in Batavia had shown no difference in the effects of the bark of the root and branches. At that time, reliable assays of pomegranate bark were not generally known, and I used indiscrimately the bark of the whole tree, or, to be more correct, of the large shrub.

It is the place here to call attention of the readers to the fact that the root-bark of the cinchonas contains some cinchona alkaloid; and that emetine is found, if I remember correctly, in the woody part of the ipecacuanha root, always considered worthless.

Professor Stoeder does not state if his figures are averages. From a perusal of the original, I am inclined to think that they are the results of the analysis of one sample. The large variations I find daily in alkaloid or other active principle of important drugs, make this suggestion necessary. This does not belittle in any way the value of estimating alkaloidal strength, over the old way of trying extractum punicæ granati on its physiological effect only, as I did. Assays of the tree-bark are desirable, however.—J. B. Nagelvoort, in *Am. Jour. Pharm.*, Nov., 1890.

Methylene Fluoride.

Methylene Fluoride (CH_2F_2) has been studied therapeutically by M. Chobrié, with the result that he finds it to be possessed of powerful bactericidal properties. The micro-organism used was one which is found in the urine, but Chabrié is now experimenting with the bacillus tuberculosis, he having found that the gaseous methylene fluoride does not possess any local irritant action. Methylene fluoride is easily prepared by heating silver fluoride with methylene chloride in a sealed tube. M. Chabrié has also succeeded in preparing the higher homologue, $C_2H_4F_2$, ethylene fluoride, by the analogous reaction with ethylene chloride, and is extending his observations to the antiseptic properties of this gas.—*Chemist and Druggist.*

---

*The following is the process: 10. grammes of the bark, reduced to a fine powder, are mixed with 2. grammes slaked lime, 100. c. c. water, and 2. grammes solution of caustic soda, 1.33 sp. gr.; macerate for 24 hours, under frequent agitation; transfer to a percolator, and displace with small quantities of water to exhaustion. Agitate the percolate in a separator with chloroform, taking small quantities in succession, to exhaust. Exhaust the chloroformic solution in another separator, first, by strongly agitating it with 10. c. c. water, acidulating carefully with nHCl, and afterwards with 5. c. c. water alone. (Repeat this as long as Mayer's reagent gives a reaction for alkaloid.—J. B. N.) Evaporate, on a water-bath, the combined watery fluids, dry above H_2SO_4 to constant weight. 10. grammes of drug should yield not less than 0.10 gramme of hydrochlorate of total alkaloid.

Pharmaceutical Progress.

RED COCHINEAL INK.—Macerate for two days 5 parts of coarsely-powdered cochineal and 10 parts of carbonate of potassium with 100 parts of distilled water, then add 30 parts of neutral tartrate of potassium and 2 parts of chemically pure alum; heat the mixture until the carbon dioxide is given off, add 5 parts of alcohol, and filter. Wash the filter with 10 parts of distilled water, dissolve 5 parts of gum Arabic in the filtrate, and add a little oil of cloves.—*Druggists' Circular*.

DEODORIZATION OF NAPHTHALIN.—Naphthalin has such a disagreeable odor that its use in medicine and surgery is considerably retarded thereby, and it has been found that the mixture of camphor and other deodorants is only of temporary benefit. But if the naphthalin be mixed with some benzoin, and then sublimed, the sublimate of naphthalin is free from tarry odor and is pleasant to smell; moreover, it retains this pleasant odor, although this is not the case when the naphthalin is simply mixed with tincture of benzoin or benzoic acid.

ANEMONIN is coming into renewed notice of late; it is said to act as an energetic analgesic, and applied in simple cases, such as difficult menstruation, with or without leucorrhœa, the menstrual flow is induced at regular periods, unaccompanied by pain. It is a camphoric principle of pulsatilla (herb of *Anemone pulsatilla*), occurring in handsome crystals, slightly soluble in cold alcohol, but readily in hot alcohol, and very slightly in boiling ether or water. It has been principally employed by homœopaths in Europe for amenorrhœa and dysmenorrhœa. It is said to be useful in bronchitis, asthma and coughs. The dose is three-tenths of a grain, taken twice a day.

SYMPATHETIC INKS—Among the inks which appear on heating the manuscript are the following: *a*. A concentrated solution of caustic potash. *b*. A solution of muriate of ammonia, in the proportion of 15 parts to 100. *c*. A weak solution of nitrate of copper (becomes red through heat). *d*. A very dilute solution of perchloride of copper (becomes yellow through heat). *e*. A slightly alcoholic solution of bromide of copper gives perfectly invisible characters, which are made apparent by gentle heat, and which disappear again on cooling. *f*. Write upon rose-colored paper with a solution of chloride of cobalt; the invisible writing will become blue through heat and will disappear on cooling. The juices of lemon, onion, leek, cabbage, and artichoke may also be used as invisible inks, all giving good characters when the paper is warmed.—*Chem. and Drug.*, Aug. 30th, 1891.

STERILIZATION OF WATER.—Unless extraordinarily resistant, water becomes sterilized if it be at or near the boiling temperature for fifteen minutes. If the same degree of heat be maintained for five minutes, all harmful micro-organisms will have been destroyed. Still less time serves to destroy the disease-producing varieties which are recognized as liable to occur in water. Thus merely raising to the boiling point a clear water containing the micro-organisms of malarial disorders, typhoid, cholera, diphtheria, or of suppurative processes, and allowing it to gradually cool, insures the destruction of these germs. They are also destroyed by keeping the water for from a quarter of an hour to half an hour at a temperature of 70° C.

Occasionally, however, very resistant but harmless bacteria may get into water. The brief heating renders them safe for drinking purposes; but when it is desired to destroy every micro-organism that may be present in a contaminated water, it should be heated for one hour and allowed to cool slowly. Then it may be used for cleaning wounds or for alkaloidal solutions, which will keep indefinitely if no germs be introduced after the solution has been heated.—Chas. G. Currier, M. D., in *Medical Record*, June 14th, 1890.

OPIUM ALKALOIDS.—Few, except those who have carefully followed chemical literature of late years, are aware of the large number of bases that have been separated from opium. Besides the six alkaloids, morphine, codeine, narceine, thebaine, papaverine and narcotine, which occur in comparatively large quantities, a number of bases occurring only in minimal amounts have been isolated. In the mother liquors of the opium alkaloid manufacture, T. and H. Smith discovered cryptopine and gnostopine, whilst from the same source Hesse obtained no less than nine rare alkaloids, protopine, laudanine, codamine, pseudo-morphine, hydrocotarnine, rhœadine, meconidine, laudanosine, and lanthopine. So little is known respecting many of these that Herr Kander undertook to prepare large quantities from the industrial mother-liquors for the purpose of acquiring further knowledge of their properties. He reports that in doing so he effected the separation of still another new alkaloid, tritopine, which occurs in smaller quantities than even protopine, and to which he assigns the formula $C_{42}H_{54}N_2O_7$ (*Archiv.* ccxxviii., p. 419). Like morphine and laudanine, it is soluble in soda solution, but is re-precipitated in an oily condition by excess of the reagent. Its melting-point, 182° C., is, however, 16° higher than that of laudanine, although the resemblance is again apparent in its behavior towards sulphuric acid. Tritopine crystallizes without water of crystallization in characteristic transparent needle-like plates and appears to be a di-acid base.—*Pharm. Journ. and Transactions.*

A NEW MACHINE FOR MAKING TROCHES, ETC.—Mr. J. M. Richter, of Gratz, has devised a new machine for making troches, pastilles, etc., in which he endeavors to overcome the drawbacks inherent to the other existing machines which he has had experience with. The machine is constructed of iron and steel, and those parts which come in contact with the compressed material are nickel-plated.

The advantages of this machine are said to be: 1. The whole action of the press, excepting only the filling of the moulds with the powder to be compressed, is performed by the movement of the lever: 2. The upper press plate always fits exactly and automatically over the mould plate: 3. The moulds or forms are easily filled by the workman, without changing his stand, as the mould plate is revolvable: 4. Both upper plate and mould plate are easily removable when required to be cleaned: 5. Various sizes of troches may be turned out by the same machine; the normal sizes are 5, 10, and 15 mm. ($\frac{3}{16}$, $\frac{3}{8}$, $\frac{9}{16}$ inch) in diameter: 6. The mould plate revolves automatically after every pressure; it only takes ten seconds to turn out ten pastilles: 7. A chief advantage is that entirely dry powders, without any excipient or binding material, may be formed into handsome and hard troches—an important feature for the dispensary department.

The pressure exerted by the stamp is equal to 50 atmospheres (750 lbs.). If desired, the stamps may have engraved designs, names, etc.

The price of this machine (for which a patent has been applied for) is very moderate (60 florins; in case, complete, 78 florins) considering its solid and neat construction. It may be put on any kind of a table, and would serve as an ornament besides to any pharmacy.—*Pharm. Post.*

Absorption of Drugs from Ointments.—The author describes some experiments he has made with the object of ascertaining to what extent drugs spread upon the skin in the form of ointments are absorbed into the general circulation. The several ointments containing soluble drugs were prepared, and each ointment was placed inside a sheep's bladder; the bladder was suspended in a beaker of distilled water, kept at a uniform temperature of 98° F. in a water bath. The ointments were prepared with three different substances as a basis, viz., vaselin, lard, and lanolin. The results of these experiments are thus classified: Vaselin and iodide of potassium, exosmosis commenced at the end of one hour. Lard and iodide of potassium, at end of nine hours. Lanolin and iodide of potassium, *nil* at end of twenty-four hours. Vaselin and carbolic acid, exosmosis commenced at the end of two and three-quarter hours. Lard and carbolic acid at the end of seven hours. Lanolin and carbolic acid, *nil* at end of twenty-four hours. Vaselin and resorcin, exosmosis commenced at end of ten hours. Lard and resorcin at end of fifteen hours. Lanolin and resorcin, *nil* at end of twenty-four hours. These experiments have all been performed with sheep's bladders, but the author hopes to be able to publish the results of further experiments on the living subject. The practical lesson to be learned from this paper is, that if an ointment is employed with the view of its active ingredients being absorbed, then vaselin is by far the best excipient to use; but if an ointment is employed for its local effect only, absorption of its active ingredient not being desired, then lanolin is the best excipient for such an ointment.—Dr. A. P. Luff, in *Pharmaceutical Jour. and Transactions.*

Standardized Liquid Extracts.—A correspondent writes the *Chemist and Druggist* as follows:

Mr. Martindale has advanced an argument, based more on supposition than on actual fact, against the employment of "standardized" fluid extracts for the preparation of tinctures, infusions, and decoctions, and as you always observe the axiom, "*audi alterem partem*," I take the opportunity of making a few comments upon the subject. As to the reason why pharmaceutical preparations should be standardized, many medical practitioners and pharmacists have remarked the absence from the Pharmacopœia of tests for strength and purity of tinctures. Why should not the specific gravity of properly made tinctures be given, and the percentage of extractive matter yielded by them be made a standard test? As long as this is not done, what guide has the dispenser that the tincture he orders from a wholesale house has been made with proof or rectified spirit, or been made at all by the B. P. process of maceration and percolation? Undoubtedly many fluid extracts made by the process of percolation and evaporation are faulty, the volatile hydrocarbons sometimes being dissipated; and the strength of a tincture prepared from such an extract would not be equal to one carefully made from the crude drug; but if the extract is made by Squibb's process of cold re-percolation, and then "standardized," no better medium for the extemporaneous preparation of tinctures, infusions, etc., can be imagined. No one knows better than the pharmacist of to-day why he should avoid "cheap and valueless" preparations, and look only for those of good appearance and reasonable price. A short time ago opium (Persian) could be readily obtained containing 15 per cent of morphia in the dry powder. Now, I would venture to ask, would not a tincture prepared from such a drug, without standardization, be fraught with danger to the patient if prescribed in full doses? Then, again, much of the emetine is destroyed in the acetic extract of ipecacuanha directed by the B.P to be employed for making vin. ipecacuanhæ; would it not be better to employ a concentrated fluid extract containing a constant amount of the alkaloid? Facts are stubborn things, and are generally proof against argument. Certainly a definite amount of active principles or extractive matter in a given quantity of tincture, is a fact, as compared with a preparation of the same nature represented by an unknown quantity.

Formulæ which May be Prepared with Lanolin.—

℞	Aceti	fl. ℥ j.
	Ung. simpl.	℥ ss.
	Lanolini	ʒ ij.
	Camphoræ	gr. x.

M. ft. ung.

Acetate of aluminium is recommended for use in an ointment containing:

Liq. alum. acetat.	fl. ℥ j.
Ung. simpl.	℥ ss.
Lanolini	ʒ ij.

M. ft. ung.

Since Bulkley introduced the use of sulphur dioxide in cutaneous diseases, much difficulty has been found in suitably applying the gas. The use of calcium bisulphite obviates this to a great extent, as a continuous stream of gaseous sulphurous acid is set free in the presence of water, which on oxydation is absorbed by the lime also produced yielding calcium sulphate.

The ointment given below affords a means of applying sulphurous acid successfully:

℞ Sol. calcii bisulphitis	fl. ℥ ij.
Ung. simpl.	℥ j.
Lanolini	℥ ss.

M. ft. ung.

Unguentum hydrogenii peroxidi:

℞ Sol. hydrogenii peroxidi	fl. ℥ j–fl. ℥ ij.
Vaselini	℥ j.
Lanolini	℥ ss.

M. ft. ung.

Calcium chloride, which is so useful as a dressing for moist eczematous surfaces, can be brought into the form of an ointment by the use of lanolin.

℞ Lanolini	℥ ss.
Sol. calcii chloridi	fl. ℥ j.
Olei cadini	fl. ʒ ij.
Ung. zinci	℥ ss.

Or

℞ Lanolini	℥ ss.
Ung. simpl	℥ j.
Sol. calcii chloridi	fl. ℥ ij.

M. ft. ung.

In combination with precipitated sulphur, calcium chloride may be employed as in this formula:

℞ Unguentum zinci, lanolini, sol. chloridi, of each	℥ j.
Sulph. præcip	ʒ iiss.

M. ft. ung.

If peroxide of hydrogen be also desired, the following may be used:

℞ Lanolini, ung. simpl., sol. calcii, sol. hydrogenii peroxidi, of each	℥ j.
Sulph. præcip	ʒ iiss.

M. ft. ung.

Lanolin milk is a useful toilet article, and can be prepared by triturating 1 part of borax with 10 parts of lanolin, gradually adding 100 parts of orange-flower water.

In using an ointment containing hydrogen peroxide, it is well to remember the action of that body as a hair dye, and to avoid applying it to the hair, e. g., of the eyebrows.

Lanolin is now adopted as an ointment basis by the Russian and Austrian Pharmacopœias, and it seems probable that it will also be introduced into that of Switzerland.—*Monthly Journal of Pharmacy.*

PERMANENT HYPODERMIC INJECTIONS.—The preparation of permanent hypodermic injections is a problem which has not yet been completely solved, and is not likely to be, because it is practically impossible to prevent forever the access of septic fungoid material to the injection. Still, a great deal may be done. From a recent paper on the subject by H. W. Jones (in the *Chemist and Druggist*), we quote the following:

As antiseptic agents for the purpose, we have had proposed glycerin, eucalyptus water, chloroform water, hydrate of chloral, thymol, carbolic acid, salicylic acid, boric acid, benzoic acid, etc. The addition of glycerin thickens the injection if added in sufficient portion to be reliable, and it renders it somewhat "messy," if not actually irritating. Eucalyptus water, boric acid, and benzoic acid are doubtful preservatives, failing entirely with some substances. Hydronaphthol in weak aqueous solution is decomposed by light, and throws down a brownish deposit. Thymol, chloral hydrate, chloroform water, carbolic acid, and salicylic acid, remain as efficient preservatives. Of these, however, the writer would limit himself to three, viz.:

Salicylic water (made in the cold by saturation, and filtered).

Thymol (1 grain rubbed down with 4 ounces of water).

Chloroform water (P. B. strength); using, however, sufficient dilute hydrochloric acid (with chloroform water) to produce a faint acidity in the case of apomorphine injection.

Salicylic Water.—This cannot be used for making morphine injection, as the writer found the solution soon became charged with a crystalline deposit. On the other hand, it was found to be, after comparative trials with other substances, the best agent for eserine, and the sulphate dissolved in the salicylic water remains practically unchanged, the usual coloration scarcely appearing. Salicylate of eserine is well known as a stable salt, and for injections for the human subject it is sufficiently soluble (solubility, 1 in 140) to allow of its use; but, as eserine is very largely employed by veterinary practitioners, and as the salicylate is not sufficiently soluble to allow of a strength of 1 in 80, or even stronger, it is worth bearing in mind how well salicylated water acts with the alkaloid in question in the form of sulphate, which is a most soluble salt and the one most generally met with.

Thymol Water.—This is a good preservative for ergotin, especially if the acid phosphates of potash and lime be first removed by neutralizing with ammonia. It also answers very well for other substances.

Chloroform Water.—This is possibly the simplest and best of all preservatives, and answers equally well for all kinds of injections, and for making a permanent solution of morphine leaves nothing to be desired. The color does not change, or only changes very slightly, on keeping, and no deposit forms. At least this is according to the experience of the writer.

As salts of the rarer alkaloids are now as easily obtainable as the alkaloids themselves, they are best bought in the combination required. The commoner stock alkaloids of every pharmacy may be converted into injections as under:

Aconitine (English), by dilute sulphuric acid.

Codeine, by dilute phosphoric acid.

Strychnine, by dilute hypophosphorous acid.

Caffeine, by a strong solution of sodium salicylate (q. s.).

In each case using chloroform water, and adding the solvent very carefully to the alkaloid in the presence of a small portion of the water.—*American Druggist,* Sept., 1890.

Notes and News.

KOCH'S "LYMPH."—It is stated that Koch's "lymph" will soon be purchasable and sold in tubes at about $3.00 for a quantity sufficient for twenty or thirty injections.

A FIRE AT JOHNSON & JOHNSON'S LABORATORY.—The firm of Johnson & Johnson, makers of medicinal plasters, etc., at New Brunswick, suffered a loss of $5,000 by a recent fire in its works. The damage was almost entirely covered by insurance.

A NEW POISONOUS PRINCIPLE IN CHEESE.—Professor Victor C. Vaughan, of the University of Michigan, writes to the Philadelphia *Medical and Surgical Reporter* that he has found another violently poisonous principle in cheese entirely different from tyrotoxicon. Its nature has not been fully established, but it is one of the so-called tox-albumins. Dr. Vaughan is continuing his researches.

POSSIBLE DRUG-RAISING IN FLORIDA.—W. W., Hardeeville, Fla., is anxious to have suggestions as to any drugs that might be cultivated with profit in his State. Agricultural interests are so much depressed he says that they must turn their attention to new crops. Several parties will plant poppies this year.

According to newspaper reports, Mr. A. A. Beach, of Palatka, has made some experiments in growing the camphor tree in that section, which have convinced him that it could be made profitable.

Any suggestions or experiences in the line indicated will be welcome.—*Drug. Circular*.

PLANTS IN SLEEPING ROOMS.—There is a popular belief that cut-flowers and plants in living rooms are apt to be injurious, owing to the continuous exhalation of carbon di-oxide. A writer in *Amateur Gardening* has recently shown that the air of a closed greenhouse, where more than 6,000 plants were growing, exhibited only 4.03 parts of the di-oxide per 10,000, this being the average of three experiments made early on three different mornings after the greenhouse had been closed for more than twelve hours. There was usually a slightly larger quantity of the gas present in the air by night than by day, but the excess by night was not more than 0.36 per 1.000. Judging then of the impurity of the air by its contained CO_2, the vitiation by means of growing plants, even at night, may be regarded as practically nothing. Whether cut-flowers have a greater effect in producing carbon dioxide than living or pot plants, the magazine writer does not say.

THE POISONED ARROWS OF THE AFRICAN PIGMIES.—In the pages of Stanley's book "In Darkest Africa," it is stated that the poisoned arrows of the pigmies in the forests often made great havoc among Stanley's followers, and produced intense suffering and sometimes death by tetanus. Sometimes, however, the effect was more rapid, and one instance is given of death within one minute from a mere pinhole. Mr. Stanley is not able to give the scientific names of the plants or animals from which these poisons are extracted, but states that one of a pitch-like consistency and color is made out of a species of *arum;* another is extracted from ants, which are crushed to a fine powder and mixed with palm oil. The treatment found successful in combating the poison was to suck and wash out the wound, and inject a strong solution of carbonate of ammonium, and to control the tetanic convulsions by the administration of hypodermic injections of morphine.

AN ANTI-PATENT CO. ESTABLISHED IN LONDON.—It is reported that a large trading concern has been incorporated to attempt to dispel the idea the public seems to have, that patent medicines contain healing properties of a secret nature which it is impossible to discover; and already the Company's transactions show good results, and it will probably pay a handsome dividend its shareholders. Their system of working is to be established a branch in all towns where the turn-out will permit it, and in smaller towns and villages to appoint a reputable chemist as their representative. Of course, the latter is induced to push the Company's products by the offer of special terms. The Corporation's principle source of revenue is from the putting up of proprietary articles in imitation (as close as the law will permit) of the largely advertised remedies, while they also deal in specialties for the bath and toilet, including sponges, tooth-brushes, and the like. A pill from the same recipe of a very extensively advertised and over-rated article has been introduced by them, with great success.

A BOYCOTT OF HOOD'S SARSAPARILLA.—The retail druggists of Utica, N. Y., numbering some sixty shops, have, with the exception of two smaller concerns, united in a boycott of "Hood's Sarsaparilla." The reason for this action is the persistence of the Hoods in selling their preparation to a big dry goods establishment kept by one Meyers, who, to draw trade, has cut the price to a point where there is absolutely no profit in handling the article named. Without special reference to the Hoods, we sincerely hope that "No pent-up Utica" will "contract the powers" of this boycott, and that the example thus set will extend until the principle involved can claim that "the boundless continent is ours." If, in every town and city where patents and proprietaries are placed and kept in the hands of grocers and dry-goods men, the druggists will quietly unite in refusing to handle such goods so long as they remain in the hands of cutters, the evil will soon be throttled. It will not take Messrs. Hood long to decide whether they would rather have the trade of sixty retail druggists or of one dry-goods man.—*National Druggist*.

ORGANIZATION OF A DRUG TRADE SECTION OF THE BOARD OF TRADE.—About forty firms in the drug and chemical trades have signified their intention to become members of the drug trade section of the Board of Trade and Transportation, and thus make another spoke in the revolving commercial wheel which regulates matters collectively instead of individually. The Committee on Organization has accomplished the desired end by agitation, and the purpose is to have one hundred firms enrolled before the next meeting for permanent organization. With committees on arbitration, legislation, transportation, and other matters, and all the assistance necessary from the influential Board of Trade, in addition to a comfortable room for meeting purposes whenever desired, the drug, chemical, dye, and manufacturing trades would have better advantages and accommodations, at less cost, than if they had an association on a purely independent basis.

The New York merchants cannot afford to ignore the benefits accruing from concerted action on matters which directly or indirectly concern every member of the trade, and the promotion of a fraternal feeling is necessary to smooth the rough edges of competition. As success has been met with in other cities, there is no reason why New York should not support a club of equal if not greater influence and strength.

A Committee was appointed consisting of Geo. J. Seabury, John McKesson Jr., Thomas F. Main, A. B. Rogers Jr., A. Plant, A. F. Andrus, J. H. Stallman, Geo. Massey, G. C. Geiger, Geo. M. Olcott, Henry Dalley Jr., B. G. Amend, S. W. Fairchild, B. H. Huttmann, and Wm. H. Hall, to complete the organization.—*Oil, Paint and Drug Reporter.*

SUBSTITUTION DECLARED ILLEGAL.—In a suit lately brought by the owners of "Sapolio" against a grocer who substituted another make of soap when Sopolio was called for, Judge Green, of the Circuit Court of New Jersey, decides as follows:

"That the act of the salesman in offering 'Pride of the Kitchen' in response to a demand for 'Sapolio' is, though done silently, a positively unlawful act, is clear. Its unlawfulness consists in an attempt to steal away the business of the complainant for the benefit of the manufacturers of 'Pride of the Kitchen.' It is clearly the object of the law of trade-marks to prevent this. In Celluloid Manufacturing Co. vs. Cellonite Manufacturing Co., 32 Fed. Rep., 97, Mr. Justice Bradley uses this language:

"'It is the object of the law relating to trade-marks to prevent one man from unfairly stealing away another's business and good will. Fair competition in business is legitimate, and promotes the public good, but an unfair appropriation of another business * * * is justly punishable by damages, and will be enjoined by a court of equity.'

"'The words 'unfair appropriation of another's business * * * in any way,' are quite comprehensive enough to include the act which, in effect, represents 'Pride of the Kitchen' to be the article demanded when 'Sapolio' is asked for. * * * The case falls clearly within the principle that equity should prevent a party from fraudulently availing himself of the trade-mark of another, which has already obtained currency and value in the market, by whatever means he may devise for that purpose. * * * Such acts should be restrained. They constitute false representations, which tend to mislead the public, and divert custom from the one manufacturer to the other. Let an injuction issue, as prayed for. The question of costs is reserved.'"

NOTES OF SPERMINE.—Spermine has been known under various names since 1851—as Charcot's or Charcot-Neumann crystals, as the asthma crystals of Leyden, and as Schreiner's crystals. In 1865 Boettcher found them in semen, and they have been obtained from the spleen, the blood, the spinal cord, white of egg, sputum, and old anatomical preparations. In 1888 Ladenburg and Abel established their identity with ethylenimin, $CH_2.CH_2.NH$. The alkaloid, properly called piperazidin hydrochloride, resembles other ptomaines chemically, and when free has the odor of fresh semen, the same odor sometimes found in sputum being also no doubt due to its presence.

It is quite probable, we believe, that its use as a stimulant may be eclipsed by its property of dissolving uric acid secretions, which is said to be so remarkable that the days of lithium compounds as gout-remedies are numbered. But for corroboration of this and other statements regarding spermine medical men should have the patience to wait.

The *Pharm. Zeitung* publishes reports from Russia giving details of a sensational lawsuit, in which a Russian professor, a well-known and very popular chemist, was the central figure (Prof. Pohl). This man, it appears, read at the recent Berlin Congress a paper on "Spermine," which created a good deal of attention, but was received with considerable reserve by the scientists there assembled. It appears that he established at St. Petersburg a manufactory for the preparation on a large scale of this article, which he advertised very largely, and sold in 1-gramme vials at the extraordinary price of about $40 per gramme. An immense demand sprang up all through Russia for the preparation, and soon became so important that the professor could not satisfy the requirements out of the crude material furnished to him in the offal of the St. Petersburg abattoirs. Raw material had to be brought from Moscow, Riga, and other places, and still the demand kept on. It seems that in order to sell quick enough the spermine was no longer prepared with the necessary care, and a current of doubt as to the efficacy of the professor's remedy set in. This was intensified when the manager of his works, a Warsaw chemist named Frankel, suddenly resigned and went to Germany, taking with him a vial of the spermine. This he showed to several eminent authorities in Berlin, who declared it to be a spurious and worthless preparation. Upon the chemist's return to Russia, the professor prosecuted him for the theft of the spermine, and on October 4th the case was heard before the St. Petersburg court. A number of experts, including professors of medicine, chemistry and physiology, were heard as witnesses, and all agreed that the vial contained no spermine at all. M. Frankel was triumphantly acquitted, and the professor's prestige has received a considerable shock.

DRUGGISTS' BULLETIN

A MONTHLY EXPONENT OF

PHARMACEUTICAL PROGRESS AND NEWS.

VOL. IV., No. 12. DETROIT, MICH., DECEMBER, 1890. $1.00 a year. Single copies, 10 cents.

TABLE OF CONTENTS.

Editorial.

PAGE.
French Criticism of American Pharmaceutical Progress ... 393
New Discoveries in Concentrated Foods ... 394
The Koch Consumption Cure ... 395
The Utility of Sulphur as a Germicide ... 396
Botany as a Branch of Pharmaceutical Education ... 396

Original Articles.

PRACTICAL PHARMACY.

"Should the National Formulary be Generally Adopted, and What Means Should be Used?" ... 397
Some Therapeutic Notes of Interest to Pharmacists ... 401

BOTANY AND MATERIA MEDICA.

Syzygium Jambolanum, D.C.—A Pharmacognostic Study ... 403
Monthly Review ... 404
Answers to Correspondents ... 406
PAGE.
Nut Cracking ... 408

Correspondence.

Paris Letter ... 409
London Letter ... 410
Pharmaceutical News from Germany ... 411
New York Letter ... 413
Book Reviews ... 414
Facetiæ ... 415

Abstracts and Translations.

Medicated Waters ... 417
Antiseptic Gauze ... 417
Freezing of Colloidal Solutions ... 418
Reference Tables for Microscopical Work ... 418
On the Medicinal Value of Pomegranate Bark ... 419
Methylene Fluoride ... 419

Pharmaceutical Progress.

Red Cochineal Ink ... 420
Deodorization of Naphthalin ... 420
PAGE.
Anemonin ... 420
Sympathetic Inks ... 420
Sterilization of Water ... 420
Opium Alkaloids ... 420
A New Machine for Making Troches, etc ... 420
Absorption of Drugs from Ointments ... 421
Standardized Liquid Extracts ... 421
Formulæ Which May be Prepared with Lanolin ... 421
Permanent Hypodermic Injections ... 422

Notes and News.

Koch's "Lymph" ... 423
A Fire at Johnson & Johnson's Laboratory ... 423
A New Poisonous Principle in Cheese ... 423
Possible Drug-raising in Florida ... 423
Plants in Sleeping Rooms ... 423
The Poisoned Arrows of the African Pigmies ... 423
An Anti-Patent Co. Established in London ... 423
A Boycott of Hood's Sarsaparilla ... 423
Organization of a Drug Trade Section of the Board of Trade ... 423
Substitution Declared Illegal ... 424
Notes of Spermine ... 424

THOMAS'S MEDICAL DICTIONARY.

A Complete Pronouncing Medical Dictionary, embracing the Terminology of Medicine and Kindred Sciences, with their Signification, Etymology, and Pronunciation. With an Appendix. By Joseph Thomas, M. D., LL. D. Imperial 8vo. 844 pages.

Extra Cloth, - - - - - - $5.00
Sheep, - - - - - - - 6.00

"For the daily use of the student or the practitioner, it is superior to any other Medical Dictionary in the language."—*Canada Medical Record.*
"We can add nothing further save that the book should be in the hands of every physician and every student in the land."—*St. Joseph Medical Herald.*
"This Dictionary supplies a place that has never been filled. I have looked it through and find all the new words that I have sought."—*Prof. A. F. Patten, College of Physicians and Surgeons, Boston, Mass.*

For sale by all Booksellers, or will be sent free of expense, by the Publishers, on receipt of price.

J. B. LIPPINCOTT COMPANY,
715 and 717 Market Street, - - - - - - - - PHILADELPHIA.

☞ Please mention the DRUGGISTS' BULLETIN.

ROBINSON'S LATIN GRAMMAR
— OF —
PHARMACY AND MEDICINE.
WITH VOCABULARIES.

A book for every pharmacist, drug clerk and student. It teaches first the kind and amount of Latin necessary. By its help no one need fail to become proficient.

Just ready. 12 mo., Cloth, $2.00, postpaid. Can be ordered through your wholesale druggist.

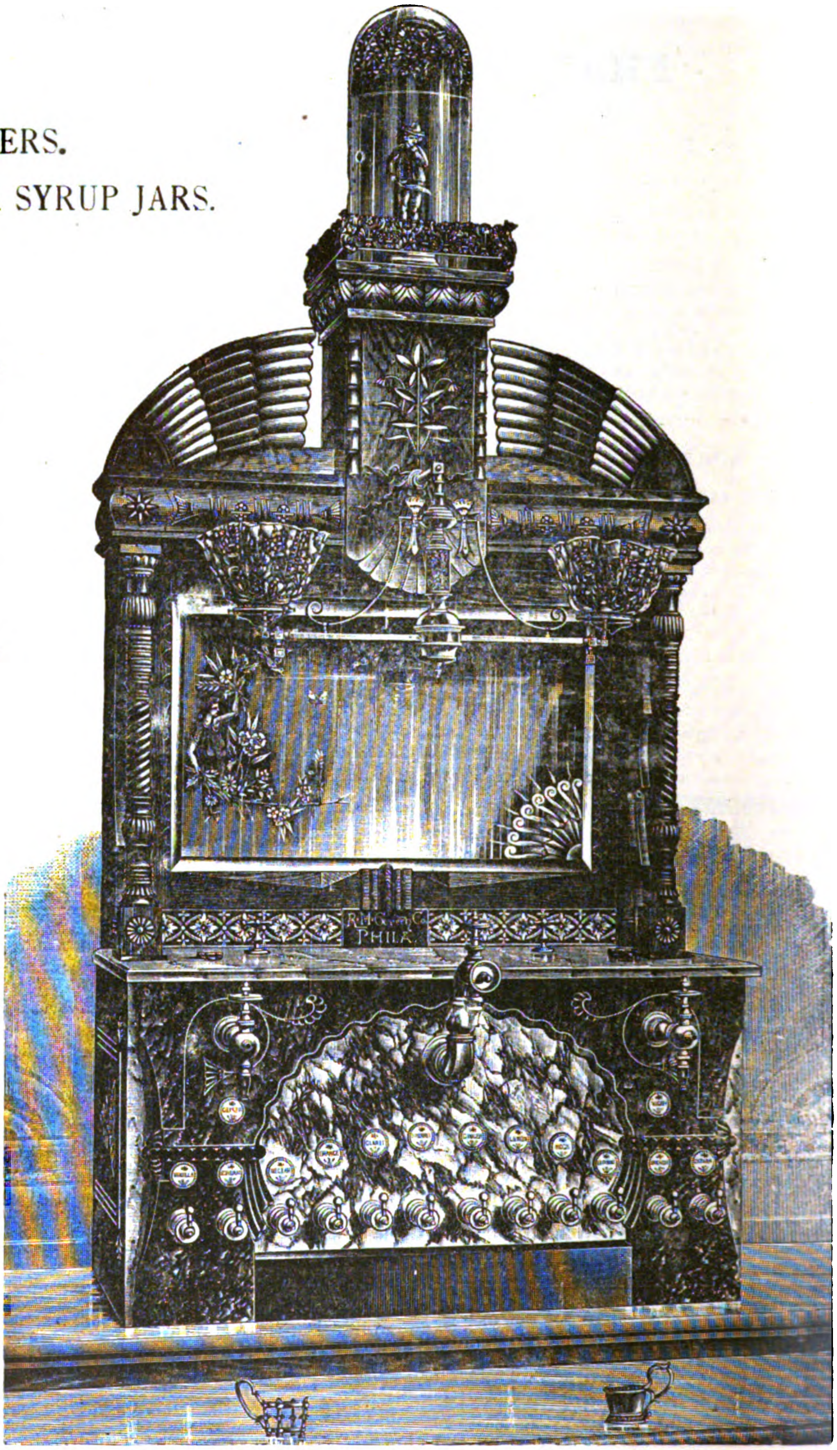
P. BLAKISTON, SON & CO., Medical Booksellers,
1012 Walnut Street, PHILADELPHIA, PA.

☞ Please mention the DRUGGISTS' BULLETIN

Entered at the Post-office at Detroit, Mich., as second class mail matter by GEO. S. DAVIS, Publisher.

SODA WATER APPARATUS.

LATEST IMPROVEMENTS.
RUBBER LINED FAUCETS.
NEW "CYCLONE" COOLERS.
REMOVABLE CHINA SYRUP JARS.



A comparison of the principles of construction and prices of our apparatus with those of other makes will convince anyone that they are not only the *Lowest in Price*, but that they contain the *Most Improvements* of any on the market. Our apparatus has given complete satisfaction wherever introduced; we have yet to learn of a *single instance* in which the purchaser was disappointed.

Payments may be made on easy monthly installments when desired.

GENERATORS,
FOUNTAINS, AND
TUMBLER WASHERS
Of the Latest Improved Pattern.

CATALOGUE
Free on application.

Second-hand apparatus of all makes, in thorough repair, at very low prices. Send for List.

ROBERT M. GREEN CO.,

1413, 1415, and 1417 Vine Street, PHILADELPHIA, PA.

Branch Salesroom:—American Mercantile Union, 117 Main St., San Francisco.

☞ Please mention the DRUGGISTS' BULLETIN.

MOSQUERA'S FOOD PRODUCTS

BEEF-MEAL AND BEEF-CACAO.

CONCENTRATED, PREDIGESTED, ASSIMILABLE, PALATABLE, ECONOMICAL.

The question of replacing the waste of tissue where normal nutrition is inefficient by means of concentrated or predigested foods is one that has always presented many difficulties, there being very few preparations, if any, that meet all the requirements of the medical profession.

* * * * * *

The ordinary process of preparing meat extracts involves a simple extraction of the meat with either warm or cold water. This extract contains none of the nourishing, flesh-forming albuminous substances. The meat juices are merely cold extractions of the meat. They possess very little nutritive value.

Powdered meats, as heretofore known, are nothing more than the residue left after drying the meat. They are liable to become rancid. They are lacking in the organic salts peculiar to meats, which salts are essential to the digestive process. Powdered beef, moreover, requires as much effort to digest it as does ordinary beef, and can not therefore be regarded as an adequate food for patients with derangement or weakness of the digestive organs.

Another group of meat preparations embraces the meat peptones, the taste of which are more or less bitter and objectionable to the palate, so that patients either absolutely refuse them, or take them with the greatest repugnance. Besides, their price is so high that the physician is often obliged to abstain from prescribing them.

* * * * * *

All the difficulties characterizing the foods mentioned have been overcome by the new food products of the Mosquera-Julia Food Company.

Mosquera's Beef Meal contains all the inorganic salts and stimulating principles of the extracts of meat, and, in addition, the nutritive principles which the extracts lack; all the albumen of meat juices without their weakness; all the extracts of powdered meats without their rancidity or insolubility; all the peptone of the peptonized meats without their bitterness.

Mosquera's Beef Meal is a perfectly pure predigested meat, containing all the nutritious constituents of lean beef, half of which are in a soluble form ready for assimilation; the other half easily digestible by the gastric and pancreatic juices. The entire preparation is composed of nutritive matter, containing about 40 per cent. of soluble peptone and albumose.

Mosquera's Beef Meal represents in actual nutritive value at least six times its weight of lean beef. It is perfectly palatable and will be tolerated with ease by the most delicate stomachs. It admits of being administered in a variety or forms, thus avoiding monotony in the food.

It may be given in any thick soup, condimented to suit the taste of the patient, or also mixed with biscuit powder, oatmeal, porridge and milk and sugar. Again, it may be mixed with chocolate, which makes a delicious beverage, or given in the form of a sandwich, and, finally, as a plain beef tea, simply dissolving it in hot water, adding salt.

* * * * * *

Mosquera's Beef Cacao consists of equal parts of beef meal, sugar, and a superior article of Dutch cacao. It does not require cooking, but may be mixed with warm milk exactly like ordinary chocolate, and so completely is the taste of the beef disguised that it can not be detected. Requiring therefore no previous preparation it is most conveniently administered.

We have only decided to accept the sole agency of these products after a very thorough investigation, and we will at all times be responsible for their quality.

To pharmacists interested a pamphlet fully descriptive of the special advantages, uses, and methods of administration of these preparations will be mailed on request, and prices furnished.

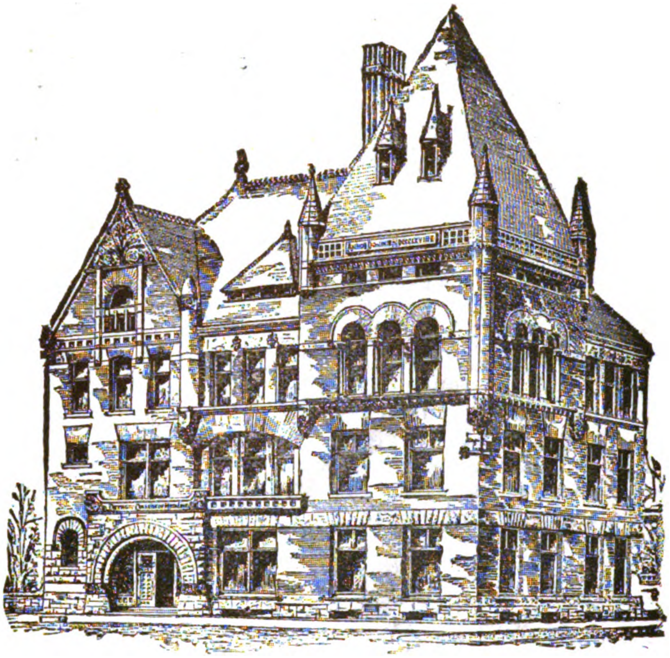
PARKE, DAVIS & CO.,

SOLE AGENTS. DETROIT AND NEW YORK.

☞ Please mention the DRUGGISTS' BULLETIN.

DEPARTMENT OF PHARMACY,

DETROIT COLLEGE OF MEDICINE.



ANNOUNCEMENT, 1891.

FACULTY.

THEO. A. McGRAW, M. D.,	Dean of Faculty.
J. E. CLARK, M. D.,	Professor of General Chemistry.
J. LeROY WEBBER, Ph. G.,	Professor of Pharmaceutical Chemistry.
JUSTIN W. McEACHREN, Ph. C.,	Professor of Theoretical Pharmacy.
LEON C. FINK,	Professor of Practical Pharmacy.
GEORGE SUTTIE, Ph. C.,	Professor of Materia Medica and Botany.
E. C. SKINNER, M. D.,	Professor of Pharmacal Jurisprudence.

ASSISTANTS.

CHEMISTRY—GEO. E. CLARK, M. D.
PHARMACY—H. L. BARIE, Ph. C.
MAT. MED. AND BOTANY—D. A. SUTTIE.

CALENDAR.

GENERAL CHEMISTRY,	**Wednesday Evening.**
PHARMACEUTICAL CHEMISTRY,	**Special Lectures.**
THEORETICAL PHARMACY,	**Monday and Thursday Evenings.**
PRACTICAL PHARMACY,	**Monday and Thursday Evenings.**
MATERIA MEDICA,	**Tuesday Evening.**
BOTANY,	**Friday Evening.**
PHARMACAL JURISPRUDENCE,	**Special Lectures.**

EXTRA.

ANALYTICAL CHEMISTRY—Daily.

The first session of the **DEPARTMENT OF PHARMACY** of the Detroit College of Medicine will begin on the evening of Monday, January 5th, 1891, at 8 o'clock, in the College building, corner of St. Antoine and Mullett streets.

Students will be required to register at the Secretary's office, on or before Saturday, January 3d, 1891.

Thorough instruction will be given in the following branches: **General Chemistry, Pharmaceutical Chemistry, Theoretical Pharmacy, Practical Pharmacy, Materia Medica, Botany, and Pharmacal Jurisprudence and Ethics. Analytical Chemistry** (not a part of the regular course).

The Laboratories and Lecture Room have been furnished with the most approved accessories for practical pharmaceutical operations, and intending students would do well to examine the announcement of this College before deciding to go elsewhere.

For further particulars, announcement, terms, etc., address

E. C. SKINNER, M. D., Secretary,
College Building, Cor. St. Antoine and Mullett Sts.

☞ **Please mention the DRUGGISTS' BULLETIN.**

DECORATED TIN BOXES.

Manufactured by SOMERS BROS., Third Ave. and Third St., Brooklyn.

We manufacture the most *complete line and assortment of Fine Decorated Tin Boxes of any concern in the World.* We have a great variety of dies and machinery for making all shapes and sizes, and execute nothing but the handsomest style of work. These boxes are only manufactured to special order, mostly where original labels are required, and no stock is made up or carried for general purposes.

For Manufacturing Chemists, Pharmacists and others, who can use Tin boxes in quantity, they are the best adapted for various purposes of anything made.

We also manufacture *Somers' "Breech Loader" Insect Powder Guns*, the most successful Gun in the market. Write for special information.

SOMERS BROS., Brooklyn, N. Y.

☞ Please mention the Druggists' Bulletin.

C. F. BOEHRINGER & SOEHNE,

Manufacturing Chemists,

15 Cedar Street - New York.

HYDROCHOLORATE OF COCAINE.

"BOEHRINGER."

The merits of our Cocaine, as a first-class thoroughly reliable preparation, have long since been fully recognized by the majority of physicians, surgeons and chemists, and more especially has it been distinguished by the approbation of:

Dr. Benj. H. Paul, of London; Professor Dr. Schrötter, of Vienna; Professor Störk, of Vienna; Professor Stellwag, of Vienna; Professor Dr. Jurasz, of Heidelberg; Professor Dr. E. Fischer, of Strassburg; Professor Dr. Riedinger, of Würzburg; Professor Dr. G. Dragendorff, of Dorpat; Dr. K. Emele, of Graz; Dr. Leopold Landau, of Berlin; Dr. Herrnheiser, of Prague; Professor Casimiro Manassei, (President of the Italian Section of the International Medical Congress of Paris), Dr. G. B. Dantone, of Rome, &c.

Our Cocaine Hydrochlorate is in beautiful, well defined crystals, and entirely free from amorphous matter. It is also free from others alkaloids, and from Benzoylecgonin. It stands Maclagan's and every other test.

This Beats All. $1.00 for Nothing

Are you selling RUDY'S PILE SUPPOSITORIES? If so, write to me at once and some paying advertising matter will be sent you FREE OF CHARGE. If you do not handle them and want to start in right now, write me at once, and send me the name of your jobbing house, and I will send to you in their care, FREE OF ALL CHARGES, two [2] boxes of RUDY'S PILE SUPPOSITORIES, which retail at 50 cents each, with FREE SAMPLES, a neat metal sign, etc.

MARTIN RUDY, Lancaster, Pa.

☞ Please mention the Druggists' Bulletin.

THE BEST. PERFECT. NO LOSS.

A

TRADE MARK

Specify on Your Orders,

CORKS

TAKE NO OTHERS.

SOLD BY ALL WHOLESALE DRUGGISTS.

☞ Please mention the Druggists' Bulletin.

Lehmaier, Schwartz & Co.

Manufacturers of

TINFOIL AND BOTTLE CAPS.

Works, 33, 35 and 37 Bleecker St.,

NEW YORK.

W.A.GILL & Co. COLUMBUS, OHIO. U.S.A.

PLAIN, LACQUERED AND DECORATED

BOXES

MAKE THE BEST SEAMLESS TIN

• IN • THE • MARKET •

Sold at manufacturers' prices by the leading Wholesale Drug Houses throughout the country.

☞ Please mention the Druggists' Bulletin.

The Armant Perfumes.

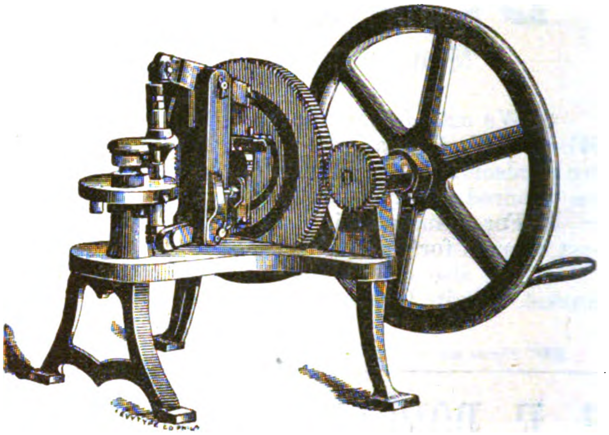
It having come to our knowledge that goods are being offered for sale under the Trade Mark "The Armant Perfumes," and that certain parties are using the said trade mark in connection with their business, we hereby beg to notify the trade that we have bought the Perfumery Department of Messrs. Herman Loeb & Co., including all their right, title and interest in and to the Trade Mark "THE ARMANT PERFUMES," as per Letters Patent No. 16611, issued by the U. S. Patent Office May 21st, 1889, and that we shall prosecute all infringements on our right to the full extent of the law.

Rice Brothers & Tiffany,

148 Duane Street, - NEW YORK, N. Y.

☞ Please mention the DRUGGISTS' BULLETIN.

SOMMERS' AUTOMATIC TABLET MACHINE.



NO SPRINGS. NO BELTS. EVERY MOTION POSITIVE.

The cheapest machine in the market.

FOUR Sets of dies and punches with every machine.

Automatic Cleaners, which feature no other machine in the market possesses.

I make no preposterous claims as to capacity, but will say that the Sommers' Machine will turn out **as many** Tablets or Lozenges as any machine made, and will make them **BETTER.**

Correspondence solicited.

RICHARD M. SOMMERS,

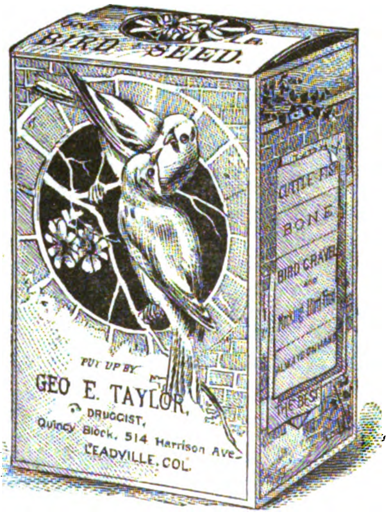
17th and Diamond Sts., PHILADELPHIA PA.

☞ Please mention the DRUGGISTS' BULLETIN.

LITHOGRAPHED BIRD SEED BOXES.

We have just published an edition of LITHOGRAPHED BIRD SEED BOXES, which for neatness and originality of design and coloring surpasses anything now on the market.

Send for Price List and Samples.

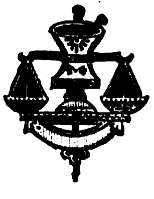


We make Folding Boxes for Proprietary Goods of every description, Condition Powders, Cough Drops, Druggists' Packages. Confectionery Boxes lithographed in colors or plain. Ice Cream and Charlotte Russe Boxes, etc. etc.

MUNSON & CO.
ESTABLISHED 1875.

NEW HAVEN, CONN.
DRAWER 74.

☞ Please mention the DRUGGISTS' BULLETIN.



A SOLID GOLD DRUGGISTS' PIN,

ONLY $1.62.

DRUGGISTS' WATCH CHARM,

Real Onyx, Colored Stone Mortar and Pestle,

ONLY $1.52.

PIN and CHARM, $2.50.

CRUGER JEWELL CO., 377 Fourth Ave., NEW YORK CITY.

☞ Please mention the DRUGGISTS' BULLETIN.

DRUGGISTS' BULLETIN FOR '91

BEGINNING with the January, 1891, number of the DRUGGISTS' BULLETIN, it is proposed to so improve its form and to increase its extent as regards reading contents as to make it the largest, handsomest, most readable and helpful pharmaceutical periodical published in the world.

It will be, considering the extent, variety and character of its contents, absolutely the cheapest journal of its class ever issued, for

With All the Additions which will be made to it, the Subscription Price will Remain the Same.

☞ Renew your subscription now and have every number of the improved volume.

PREMIUMS TO SUBSCRIBERS.

Subscribers to the Druggists' Bulletin are offered the choice, under the conditions specified, of the following three premiums.

PREMIUM NO. 1.

The Druggists' Bulletin and The Cosmopolitan.

AT THE PRICE OF THE LATTER ALONE.

TO SUBSCRIBERS who send in their cash order for 1891 to the DRUGGISTS' BULLETIN and Cosmopolitan before January 1, both journals will be sent at the special price of $2.40. This is the regular price of the Cosmopolitan alone.

The Cosmopolitan is regarded by good judges as the best of the monthly magazines and furnishes by its interesting and instructive articles and unsurpassed illustrations, a magazine that is not only entertaining but educational in the great variety of information its text and apt illustrations afford. We can heartily commend it to the readers of the Bulletin, and take pleasure in being able to make the special price for it, combined with the Bulletin, which we now announce.

The New York Times calls it, "At its price, the brightest, most varied and best edited of the magazines."

REGULAR PRICE:

The Cosmopolitan, per year, **$2.40.** The DRUGGISTS' BULLETIN, per year, **$1.00.** The price of the two publications, **$8.40.**

SPECIAL PRICE:

WE WILL FURNISH BOTH FOR ONLY $2.40.

This will afford every paid up subscriber to the DRUGGISTS' BULLETIN an exceptional opportunity of providing himself with the most progressive and helpful pharmaceutical journal and a monthly popular magazine unexcelled in attractiveness of literary contents and illustrations.

Choice of the Physicians' Leisure Library Free to Paid Up Subscribers.

To subscribers sending in their renewal subscription for 1891, with remittance for 1891, and amount due to that date, we offer as a premium any number of the Physicians' Leisure Library Series, comprising monographs on prevalent diseases by the most eminent authors. Announcement of this Library mailed on request.

Prof. Eli H. Long's New Book, "Tables for Doctor and Druggist," and the Druggists' Bulletin for 1891, *for* $2.00.

TO EVERY SUBSCRIBER WHO PAYS UP ALL ARREARAGES

The DRUGGISTS' BULLETIN for 1891 and and a copy of "Tables for Doctor and Druggist" will be sent, postpaid, on receipt of $2.00. This is the regular price of the book alone, and every subscriber who takes advantage of this offer virtually secures the DRUGGISTS' BULLETIN gratuitously for the year 1891. See announcement of Prof. Long's valuable book of reference below.

TABLES
For Doctor & Druggist

Comprising Tables of Solubilities, Incompatibles and Reactions, Doses and Uses of Medicines, Poisons and Antidotes.

By ELI H. LONG, M. D.,

Professor of Materia Medica, Buffalo College of Pharmacy; Lecturer on Therapeutics, Medical Department, University of Buffalo.

THERE has long been need of a manual which would give to physicians and druggists in an intelligible form for convenient reference, tables of Solubilities, Incompatibles and Reactions,

Doses and Uses of Medicines, Poisons and Antidotes

Such a book is now in course of preparation by Professor Long, and we shall soon be able to announce its publication.

The publisher has decided to make the book popular by fixing the price at $2.00, and shall be pleased to answer all inquiries concerning it pending its issue.

GEO. S. DAVIS, Medical Publisher,
DETROIT, MICH.

NEW MEDICAL DICTIONARY

A compact, concise Vocabulary, including all the Words
and Phrases used in medicine, with their proper
Pronunciation and Definitions.

Based on Recent Medical Literature

—BY—

GEORGE M. GOULD, A. B., M. D.,

OPHTHALMIC SURGEON TO THE PHILADELPHIA HOSPITAL, CLINICAL CHIEF OPHTHALMOLOGICAL DEPT. GERMAN HOSPITAL, PHILADELPHIA.

IT is not a mere compilation from other dictionaries. The definitions have been made by the aid of the most recent standard text-books in the various branches of medicine. It includes

SEVERAL THOUSAND NEW WORDS

NOT CONTAINED IN ANY SIMILAR WORK.

It contains **Tables** of the **Abbreviations** used in Medicine, of the **Arteries** of the **Bacilli**, giving the Name, Habitat, Characteristics, etc.; of **Ganglia, Leucomaines, Micrococci, Muscles, Nerves, Plexuses, Ptomaines**, with the Name, Formula, Physiological Action, etc.; and the **Comparison of Thermometers**, of all the most used **Weights and Measures** of the world, of the **Mineral Springs of the United States, Vital Statistics**, etc., etc.

Much of the material thus classified is not obtainable by English readers in any other work.

From PROF. J. M. DA COSTA: "I find it an excellent work, doing credit to the learning and discrimination of the author."

PRICE:

Small Octavo, 520 Pages, Half-Dark Leather, $3.25.

With Thumb Index, Half Morocco, Marbled Edges, $4.25.

For Sale by GEO. S. DAVIS, Publisher, Detroit, Mich.

INVALUABLE FOR REFERENCE FOR PHARMACISTS AND PHYSICIANS NOT WELL VERSED IN LATIN

THE LATIN GRAMMAR

—OF—

PHARMACY AND MEDICINE.

—BY—

D. H. ROBINSON, Ph. G.,

WITH AN INTRODUCTION

—BY—

L. E. SAYRE, Ph. G.,

Professor of Pharmacy in, and Dean of, Department of Pharmacy, University of Kansas

PRICE, $2.00, POSTPAID.

HOW TO BUY YOUR BOOKS

If you wish any book for reference relating to Pharmacy or Medicine, we will deliver it to you at publisher's prices, postpaid. Quotations sent on request, and all enquiries promptly answered.

GEO. S. DAVIS, Publisher,

P. O. Box 470. **DETROIT, MICH.**

BUFFALO COLLEGE of PHARMACY

(Department of Pharmacy, University of Buffalo).

HALF OF INSTRUCTION GIVEN IN LABORATORIES.

Attend no College of Pharmacy without seeing announcements of other Colleges.

For Announcement, address **WILLIS G. GREGORY, Sec'y, Buffalo, N. Y.**

☞ Please mention the DRUGGISTS' BULLETIN.

The Illinois College of Pharmacy, Chicago

DEPARTMENT OF PHARMACY OF NORTHWESTERN UNIVERSITY.

Over 200 students annually.——FOUR separate Laboratories.——Systematic Laboratory Instruction in DISPENSING.——Each student receives over 30 HOURS instruction weekly.——Two-thirds of the instruction is given in the Laboratories.——Modern methods of instruction. New Catalogue now ready. Address

OSCAR OLDBERG, Dean, 40 Dearborn St., Chicago.

☞ Please mention the DRUGGISTS' BULLETIN.

DRUGGISTS' ATTENTION

Is solicited to a very desirable gift to make to their Physician customers at the approaching holiday season.

The Physicians' Perfect Call List and Record

The handsomest, most convenient, and most complete Visiting List published. It is arranged for perpetual use, and can therefore be used for any year.

It is smaller than most Lists, more convenient to carry in the pocket, more tastefully bound, more practically arranged.

The list price is **$1.50**, but we will allow druggists **25 Per Cent. Discount** on all orders they may send in before January 1st, 1890.

If you desire the name of the physician embossed in gilt lettering on the flap of the cover, with your compliments and your own name, we will have this done for you at an extra charge of 20 cents only.

GEO. S. DAVIS,
DETROIT, MICH.

☞ Please mention the DRUGGISTS' BULLETIN.

ITALIAN MINTS.

JEAN ROB'T MOECHEL,
ORIGINAL MANUFACTURER,
PHILADELPHIA, PA.,

621 Spring Garden Street. **525-527 N. Seventh Street**

APPLY FOR ILLUSTRATED PRICE LIST AND PRICES.

☞ Please mention the DRUGGISTS' BULLETIN.

SWAIM'S PANACEA.

This alterative was first introduced to the Profession and the public in the year 1820. It has the recommendations of the most eminent professors of Physic in the Universities of New York and Philadelphia; the late Dr. Valentine Mott, Professors Gibson, Chapman, Dewees, and others.

In **Scrofula,** and in conditions of diseases known as "**Secondary Symptoms,**" in **Coxalgia and White Swelling;** in **Mercurial Rheumatism, Scrofulous Ophthalmia, Old Chronic Ulcers, Etc.,** it displays its controlling influence, and in the great majority of cases arrests the progress of the disease and restores the patient to health. It has been the means of saving thousands from beds of suffering and lingering deaths.

Druggists unacquainted with the properties of this Remedy, are assured it

DOES NOT CONTAIN ANY MERCURIAL INGREDIENT WHATEVER.

Bear in mind this is not a new ephemeral remedy gotten up for speculative purposes, but has an unblemished record of more than half a century of testing, and stands to-day alone and unrivalled. Hundreds of physicians, thousands of families, have used it advantageously. To these we confidently appeal for recommendations of its value, and a fair trial will soon verify our statement.

Address orders to **DR. FRANKLIN STEWART, Manager,** (under whose supervision it has been manufactured the past thirty-five years),

SWAIM'S LABORATORY,
113 S. Seventh St., below Chestnut, PHILADELPHIA, PA.

The fac-simile of our bottle will prevent purchasers from being imposed upon by a base imitation sold on our preparation by a person who puts up a so-called Panacea; but the name is spelled differently. Druggists must be on the lookout for it, or they may be swindled.

☞ Please mention the DRUGGISTS' BULLETIN.

ESTABLISHED 1868.

Good's Carbolic Soap.
Good's Dog Soap.
Toland's Carbolic Soap.
Toland's Dog Soap.

Good's Pure Palm Oil Soap.

This Soap weighs 20 ounces when packed, and is placed in boxes containing 30 bars each; $2.70 per box.

I desire to call your attention to the "**Mortar and Pestle**" brand. This Soap is a **wonderful cleanser,** it removes all **stains** and leaves the skin **soft and healthy.** There is no better Soap in the world for the laboratory.

"**Mortar and Pestle**" brand is 214 on list, and put up in half pound bars, one dozen in box, 75 cents.

Send for a Price List of Good's Soaps.

Good's Soaps can be obtained from all leading jobbers.

Would be pleased to send you Price List of Goods manufactured by me.

JAMES GOOD, Philadelphia.

☞ Please mention the DRUGGISTS' BULLETIN.

J. FEHR'S

"Compound Talcum Baby Powder,"

THE
"**Hygienic Dermal Powder**"
FOR
INFANTS AND ADULTS.

COMPOSITION—Silicate of Magnesia with Carbolic and Salicylic Acids.

PROPERTIES — Antiseptic, Antizymotic and Disinfectant.

Useful as a
GENERAL SPRINKLING POWDER
with positive Hygienic, Prophylactic
and Therapeutic Properties.

GOOD IN ALL AFFECTIONS OF THE SKIN.

Sold by the Drug Trade generally.

Per box, plain, 25c.; perfumed, 50c.
Dozen, " $1.75.; " $3.50.

The Manufacturer:
JULIUS FEHR, M. D
Ancient Pharmacist,
HOBOKEN, N. J.

Only advertised in Medical and Pharmaceutical prints.

☞ Please mention the DRUGGISTS' BULLETIN.

PREPARATIONS OF QUININE AND CINCHONA

—AND—

VEHICLES FOR ADMINISTRATION.

How do you administer quinine? Are you acquainted with the many forms in which it may be given?

The utility of a remedy depends largely upon its genuineness, its purity, and its preparation in that form which is best adapted to meet the particular conditions or indications for its use. Modern pharmacy has achieved most important and useful results in the direction of improving the quality of remedies, of rendering them easier of administration and absorption, and better adapted for the purposes for which they are required. By this means, also, the range of therapeutic application of many remedies has been extended.

It is our belief that every physician worthy the name desires in pharmaceuticals, genuineness, absolute purity, uniformity and palatability. These qualities are indispensable to securing the best results.

Naturally these ends cannot be achieved without financial outlay. It follows that properly prepared pharmaceuticals are not the cheapest offered in the market. Cheapness in pharmaceuticals, as in other products often means a sacrifice of excellence.

In carrying on all the operations requisite to manufacturing pharmaceuticals, our first consideration is to make as perfect products as careful attention to all the details mentioned can create. We spare no necessary expense in effecting this purpose.

Among preparations of remedies which we have done much to improve we desire to briefly call attention to those of Quinine and Cinchona, to which we have given much study, and which justify us in claiming them to be superior to any other at the command of physicians.

We can merely mention here the names of the various classes of these preparations we make, an indexed descriptive list of all of them, and of our other manufactures, will be mailed to physicians requesting it.

PREPARATIONS OF CINCHONA AND ITS ALKALOIDS.

These preparations comprise: Fluid Extract Cinchona Aromatic; Fluid Extract Cinchona Calisaya, U. S. P.; Fluid Extract Cinchona Compound; Fluid Extract Cinchona, pale; Fluid Extract Cinchona, red; Fluid Extract Cinchona, red comp.; Liquid Cinchona Calisaya, normal; Liquid Cinchona, red, normal; Elixirs of Calisaya Alkaloids and Barks, and a variety of convenient combinations of these with other medicinal agents in the form of Elixirs; Wine of Calisaya; Syrup of Iron and Quinine Citrate; Syrup of Iron, Quinine and Strychnine; Red Cinchonna Cordial; Soluble Elastic Capsules of Quinine, 2 to 5 grains; Hypodermic Tablets; Tablet Triturates; Granules; Lozenges, Oleates and Pills of Quinine, Cinchonine and Cinchonidine, alone or in combination with other tonic agents largely prescribed.

Our Pills are invariably made to meet the following requirements: Permanency, purity, accuracy of ingredients, solubility permitting of absorption in even impaired condition of the alimentary tract.

QUININE HYPODERMICALLY.

The majority of physicians do not administer quinine hypodermically, owing to the fact that it is supposed that it causes irritation, pain and possible induration and suppuration. If a proper solution is carefully used, however, there is little danger of this. We quote from Bourneville & Bricon's work on Hypodermic Medication as follows on this topic:

> "Glycerine is often the best vehicle. It dissolves one part in six by weight, by means of heat, but when cold only three per cent. The following solution is, however, more desirable for hypodermic use, viz: ℞ Muriate Quinine (P., D. & Co.), 32 grains; Dilute Hydrochloric Acid, 15 minims; Distilled Water, up to 160 minims (5 minims of this solution is the equivalent of 1 grain of quinine). This solution preserves its limpidity without any precipitate for several months."

VEHICLES FOR QUININE.

Quinine may be administered, when there exists special abhorrence of it, by capsule, by innunction of the oleate, and hypodermically. There are also many vehicles for its administration. Probably the choice of these are the preparations made of Licorice and Yerba Santa. An article entitled: "Vehicles for Quinine," containing suggestions as to the use of the following preparations as vehicles for Quinine will be mailed to physicians requesting it: Fluid Extract Licorice for Quinine; Aromatic Syrup Yerba Santa; Elixir Dandelion Comp.; Elixir Eucalyptus Comp.; Elixir Licorice Aromatic; Cascara Cordial.

PARKE, DAVIS & CO.,
DETROIT AND NEW YORK.

☞ Please mention the DRUGGISTS' BULLETIN.

Eligible Pepsin Products.

The competition among pepsin manufacturers for the past year has been so great as to lead to not a little misrepresentation by the less scrupulous as to the actual facts. The controversy over the subject of pepsin tests and standards and comparative digestive power has gradually simmered down to a recognition of certain facts which all pharmacists should now recognize. These may be briefly stated as follows:

Since the last revision of the U. S. Pharmacopœia, there has not been a single instance where the remedial value of a preparation has been so greatly enhanced, through the instrumentality of the manufacturing pharmacist, as in the case of pepsin.

This achievement has resulted from the elaborate researches which have been conducted in the department of our laboratory devoted to original work. We have thus been enabled to increase the proteolytic or digestive power of commercial pepsin to a standard forty times higher than that required by our Pharmacopœia, and at the same time imparted to our product certain qualities which have been heretofore regarded as verging on the impossible.

Our products are to be distinguished from the so-called "insoluble" pepsins by their property of readily dissolving in water. This fact alone is an evidence that certain insoluble matter with which pepsin is ordinarily contaminated has been rejected by our process of manufacture. The contamination here referred to is dried mucus, which possesses no proteolytic power whatsoever, while its presence serves to render the product exceedingly unstable.

Another class of pepsins include certain soluble forms of the ferment, but these products are invariably of an exceedingly hygroscopic nature and are very prone to deterioration, finally resulting in a total loss of proteolytic power. Aside from the loss in peptic power the putrescible character of the contamination above enumerated gives rise to certain products of decomposition usually evidenced by the pronounced and disagreeable odor suggestive of incipient putrefaction. This already existing tendency may favor further changes when a product of such highly complex nature is exposed to influences of warmth, moisture and other conditions inseparable from the alimentary canal, and leucomaines or ptomaines of a nature harmful to the human subject may be developed. It is therefore evident that pepsin should be free from any obnoxious odor, and that such a product should alone be prescribed by the physician.

Our Pepsinum Purum, in Lamellis and Pepsinum Purum Pulvis meet all the requirements of a typical preparation, not only as regards their freedom from innocuous substances, but in point of digestive activity as well. Both are capable of dissolving 2,000 times their weight of coagulated egg albumen under the conditions of our published test, but should the experience of the physician indicate that a still greater activity is desirable, we are prepared to meet their wants in this direction, as a degree of activity has already been reached by us which is many times that of our present standard.

As to the digestive power of tne various Pepsins marketed we may quote from an eminent authority, R. H. Chittenden, Ph. D., Professor of Physiological Chemistry at Yale University, who, after elaborate investigations, read a paper entitled "Observations on the Digestive Ferments," before a section of the New York Academy of Medicine, January 23d, 1889, which was published in the *Philadelphia Medical News*, February 16th, 1889, in which he reaches the following conclusions:

"As a final result, then, we may consider the true proteolytic power of the following Pepsins compared with one of the highest digestive power to be:

1.	Parke, Davis & Co.'s Pepsinum Purum in Lamellis	100
2.	Fairchild's Pepsin in scales	52
3.	Scheffer's Dry Pepsin, concentrated	48
4.	Jensen's Crystal Pepsin	35
5.	Ford's Pepsin in scales	32
6.	North's Pure Pepsin	16
7.	Boudault's Pepsin	14
8.	Royal Chemical Co.'s Pure Pepsin	6

DRY FORM: Pepsinum Purum, in Lamellis, Pepsinum Purum Pulvis; Saccharated Pepsin, U. S. P., Lactated Pepsin.

LIQUID FORM: Glycerole Pepsin, concentrated; Pepsin Cordial; Liquid Pepsin, U. S. P., Lime Juice and Pepsin.

TABLET FORM: Digestive Tablets; Lactated Pepsin Tablets; Pepsinum Purum Tablets (3 gr. sugar-coated); Peptonizing Tablets.

All information desired by pharmacists as to our pepsin products, our general line of standard medicinal preparations, and salable pharmaceutical specialties and latest therapeutic novelties and improvements in methods of medication, will be promptly furnished on request.

PARKE, DAVIS & CO., Detroit and New York.

☞ Please mention the DRUGGISTS' BULLETIN.

BILLINGS, CLAPP & CO.,

Manufacturing Chemists,

BOSTON.

PHARMACEUTICAL PREPARATIONS,

FLUID EXTRACTS, ELIXIRS, SYRUPS,

MEDICINAL WINES AND SPECIALTIES.

PROPRIETORS OF

NICHOLS & CO.'S { ELIXIR BARK AND IRON.
SARSAPARILLA AND IODIDE LIME.

CATALOGUE MAILED ON APPLICATION.

☞ Please mention the Druggists' Bulletin.

Brass signs and Office Plates

For estimates give size of plate and lettering.
Northwestern Stamp Works,
ST. PAUL, MINN.

Please mention the Druggists' Bulletin.

LITHOGRAPH LABELS

BY THE 1000 OR SHEET.

Send for GILLAM'S SONS New Catalogue
PHILADELPHIA
CORK TOPS AND EMBOSSED ENVELOPES

PRINTERS, LITHOGRAPHERS AND EMBOSSERS.

☞ Please mention the Druggists' Bulletin

PEPSIN CORDIAL
AND
PEPSIN GLYCEROLE

Are two convenient fluid preparations for druggists to dispense, Specify Parke, Davis & Co.s' in ordering. It is more active as a digestive than any other, and always reliable in preparing peptonized milk or other peptonized foods. Send for descriptive literature.

PARKE, DAVIS & CO.,
DETROIT and NEW YORK.

☞ Please mention the Druggists' Bulletin.

The Michigan Phonograph Co.

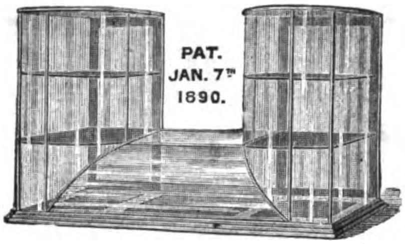
AGENTS FOR THE

EDISON PHONOGRAPH FOR MICHIGAN.

Rooms 13, 15 and 17 Detroit Opera House.

DETROIT, MICHIGAN.

☞ Please mention the Druggists' Bulletin.



EXCELSIOR!

NEAT.
COMPACT.
ROOMY.
ATTRACTIVE.

Made especially for the Druggists' trade. The handsomest display case ever offered.

FIVE HUNDRED CASES IN STOCK

SEND FOR ILLUSTRATED CATALOGUE.

F. H. STARLING,
N. E. Cor. Fourth and Arch Streets,
PHILADELPHIA, - - PA.

☞ Please mention the DRUGGISTS' BULLETIN.

SANDER & SONS'

Eucalypti Extract, Eucalyptol.

(The pure volatile oil of the leaves.)

Professor Dr. Mosler, Director of the Medical Clinic at the University of Greifswald (Prussia) reports: Sander & Sons' Eucalyptus proved magnificiently successful in contusions, sprains, wounds, etc., and was unequalled in the cure of colds, influenza, chronic catarrhh, bronchitis, etc. Meyer Bros. Drug Co,. St. Louis, Mo., Sole Agents, will fill a trial order of one-sixth dozen ounce bottles at the wholesale price of eight dollars per dozen.

CAUTION.—This preparation must not be confounded with the common terebinthinous oil of eucalyptus, mostly in use for mechanical purposes and worth about ten cents an ounce.

SANDER & SONS,
Sandhurst, Australia.

☞ Please mention the DRUGGISTS' BULLETIN.

A MENSTRUUM.

Horsford's Acid Phosphate.

This preparation has been found especially valuable as a menstruum for the administration of such alkaloids as morphine, quinine, and other organic bases which are usually exhibited in acid combination.

The admixture with pepsin has been introduced with advantage when indicated.

The Acid Phosphate does not disarrange the stomach, but, on the contrary, promotes in a marked degree the process of digestion.

Dr. R. S. MILES, Glencoe, Minn., says: "I use it in a great many cases as a menstruum for quinine, when an acid is necessary."

Send for descriptive circular. Physicians who wish to test it will be furnished a bottle on application, without expense, except express charges.

Prepared under the direction of Prof. E. N. HORSFORD, by the

RUMFORD CHEMICAL WORKS, Providence, R. I.

Beware of Substitutes and Imitations.

CAUTION:—Be sure the word "HORSFORD'S" is PRINTED on the Label. All others are spurious. NEVER SOLD IN BULK.

☞ Please mention the DRUGGIST'S BULLETIN.

SULFONAL-BAYER.

Wm. H. Thomson, M. D., L. L. D., in speaking of Sulfonal, says: "Sulfonal is a pure hypnotic, neither anæsthetic or depressing in character, and it does not affect the heart or circulation, and the sleep it produces is perfect Being quite insoluble, it requires about three hours to become thoroughly dissolved in the stomach, and should be given about two hours before bed-time. As it is not affected by the digestive secretions, it may be given shortly after the evening meal.

"Sulfonal is of great value in the insomnia of the insane, and the dose should be repeated once during the night if the sleep is too short. *It is especially recommended in cases of nervous insomnia,* also in the sleeplessness of delirium tremens. In the latter case gr. xx. should be administered every two hours until LX. or LXXX. grs. have been taken, but it should be remembered that every case of delirum tremens is also a case of starvation, and to produce sleep the patient must be fed. Dose as a hypnotic, gr. xv–xx." [From Notes, Materia Medica, and Therapeutics. Lectures delivered by Prof. Wm. H. Thomson, M. D., L. L. D. Edited by Wm. H. McEnroe, M. D.]

Hunter McGuire, M. D., Richmond, Va.—"Has found it particularly valuable in insomnia following the use of alcohol."

Henry M. Wetherill, Jr., M. D., Ph. G., Philadelphia.—"The almost universal report of Sulfonal is that it has little or no effect upon the vast majority of insomnous subjects save the important one of increasing, prolonging the natural tendency to sleep; that its action is not narcotic, but purely hypnotic."

W. H. Flint, M. D., New York. (Discussion before New York State Medical Association)—"He had used Sulfonal as being the most efficient or desirable of the new hypnotics. He had not yet seen a Sulfonal habit. There had been about eighty per cent. of successes in his cases."

James Stewart, M. D., Montreal.—"Sulfonal produces no disagreeable secondary symptoms, nor any unfavorable effects on the heart or circulation. Its action was by giving rest to the cells of the cerebral cortex, and thereby causing sleep."

Sulfonal–Bayer, prepared by the Farbenfabriken, formerly Friedr. Bayer & Co., Elberfeld, is supplied by us in ounces, and in the form of Tablets of 5, 10 *and* 15 *grains, put up in bottles of* 10 *and* 100 *tablets each.*

We also offer Sulfonal–Bayer in the form of our soluble pills containing 5 *grains each.*

W. H. SCHIEFFELIN & CO.,

170 and 172 William Street, NEW YORK.

Physicians' Leisure Library.

PRICE IN PAPER, Post-paid.
25 cts. per copy; $2.50 per set of 12.

PRICE IN CLOTH, Post-paid.
50 cts. per copy: $5 per set of 12.

SERIES I.

Inhalers, Inhalations and Inhalants.
By Beverley Robinson, M. D.

The Use of Electricity in the Removal of Superfluous Hair and the Treatment of Various Facial Blemishes.
By Geo. Henry Fox, M. D.

New Medications. Vol. I.
New Medications. Vol. II.
By Dujardin-Beaumetz. Translated by E. P. Hurd.

The Modern Treatment of Ear Diseases.
By Samuel Sexton, M. D.

The Modern Treatment of Eczema.
By Henry G. Piffard, M. D.

Antiseptic Midwifery.
By Henry J. Garrigues, M. D.

On the Determination of the Necessity for Wearing Glasses.
By D. B. St. John Roosa, M. D.

The Physiological, Pathological and Therapeutic Effects of Compressed Air.
By Andrew H. Smith, M. D.

Granular Lids and Contagious Ophthalmia
By W. F. Mittendorf, M. D.

Practical Bacteriology.
By Thomas E. Satterthwaite, M. D.

Pregnancy, Parturition and the Puerperal State and their Complications.
By Paul F. Mundé, M. D.

SERIES II.

The Diagnosis and Treatment of Hæmorrhoids.
By Chas. B. Kelsey, M. D.

Diseases of the Heart. Vol. I.
Diseases of the Heart. Vol. II.
By Prof. Dujardin-Beaumetz. Translated by E. P. Hurd, M. D.

The Modern Treatment of Diarrhœa and Dysentery.
By A. B. Palmer, M. D.

Intestinal Diseases of Children. Vol. I.
Intestinal Diseases of Children. Vol. II.
By A. Jacobi, M. D.

The Modern Treatment of Headaches.
By Allan McLane Hamilton, M. D.

The Modern Treatment of Pleurisy and Pneumonia.
By G. M. Garland, M. D.

Diseases of the Male Urethra.
By Fessenden N. Otis, M. D.

The Disorders of Menstruation.
By Edward W. Jenks, M. D.

The Infectious Diseases. Vol. I.
The Infectious Diseases. Vol. II.
By Karl Liebermeister, Translated by E. P. Hurd, M. D.

SERIES III.

Abdominal Surgery.
By Hal C. Wyman, M. D.

Diseases of the Liver.
By Dujardin-Beaumetz, M. D.

Hysteria and Epilepsy.
By J. Leonard Corning, M. D.

Diseases of the Kidney.
By Prof. Dujardin-Beaumetz.

The Theory and Practice of the Ophthalmoscope.
By J. Herbert Claiborne, Jr., M. D.

Modern Treatment of Bright's Disease.
By Alfred L. Loomis, M. D.

Clinical Lectures on Certain Diseases of the Nervous System.
By Prof. J. M. Charcot, M. D.

The Radical Cure of Hernia.
By Henry O. Marcy, A. M., M. D., L. L. D.

Spinal Irritation.
By William A. Hammond, M. D.

Dyspepsia.
By Frank Woodbury, M. D.

The Treatment of the Morphia Disease.
By Prof. Erlenmeyer.

The Etiology, Diagnosis and Therapy of Tuberculosis.
By Prof. H. von Ziemssen, M. D. Translated by D. J. Doherty, M. D.

SERIES IV.

Nervous Syphilis.
By H. C. Wood, M. D.

Education and Culture as Correlated to the Health and Diseases of Women.
By A. J. C. Skene, M. D.

Diabetes.
By A. H. Smith, M. D.

Some Major and Minor Fallacies Concerning Syphilis.
By E. L. Keyes, M. D.

A Treatise on Fractures.
By Armand Desprès, M. D.

Hypodermic Medication.
By Drs. Bourneville and Bricon.

Neuralgia.
By E. P. Hurd, M. D.

Practical Points in the Management of Diseases of Children.
By I. N. Love, M. D.

Electricity, its Application in Medicine. Vol. I.
Electricity, its Application in Medicine. Vol. II.
By Wellington Adams, M. D.

Rheumatism and Gout.
By F. Leroy Satterlee, M. D.

Auscultation and Percussion.
By Frederick C. Shattuck, M. D.

SERIES V.*

Taking Cold.
By F. H. Bosworth, M. D.

Pulmonary Consumption, a Nervous Disease.
By Thomas J. Mays, M. D.

Lessons in the Diagnosis and Treatment of Eye Diseases.
By Casey A. Wood, M. D.

Practical Notes on Urinary Analysis.
By William B. Canfield, M. D.

Artificial Anæsthesia and Anæsthetics.
By DeForest Willard, M. D. and Dr. Lewis H. Adler, Jr.

Diseases of the Bladder and Prostate.
By Hal. C. Wyman, M. D.

Cancer.
By Daniel Lewis, M. D.

Practical Intestinal Surgery. Vol. I.
Practical Intestinal Surgery. Vol. II.
By F. B. Robinson, M. D

Modern Treatment of Hip Disease.
By Charles F. Stillman, M. D.

Lectures on Tumors.
By John B. Hamilton, M. D., LL. D.

Insomnia and Hypnotics.
By Prof. Germain Sée.

---

* The numbers of this series will be published promptly one a month, beginning Jan. 1891. The other numbers of this series will be announced later.

GEORGE S. DAVIS, Medical Publisher,
P. O. Box 470. DETROIT, MICH.

EMPLOYMENT AND EXCHANGE BUREAU.

ADVERTISEMENTS INSERTED FREE.

FOR SALE.—Drug store for sale in Alpena, Mich.; 12,000 inhabitants; only five drug stores; price $3,500 cash; beautiful climate; large lumbering city. Address, Lee M. Hutchins, Alpena, Mich. 61

SITUATION WANTED.—By a druggist of twenty years' experience, clerk or manager; understands the drug and prescription business in all its various branches, also the mannfacturing of pharmaceutical preparations. No objection to West. Address X. Y., Manchester, Ind. 57

WANTED SITUATION.—A young man of 24, single; capital references; six years' experience; position desired about January 10th or 15th. Gold seal in Iowa. Place of 10,000 or over preferred. Address Box 686, Webster City, Ia.

DRUG STORE FOR SALE in Ransomville, N. Y. A first-class drug store in a growing and promising town of about 500. No other drug store within 15 miles. Is located in one of the best farming and fruit sections in Western New York. Can be bought for $1,500, on easy terms. A rare chance for some young man who desires to start small and grow into a lucrative business. Address W. & R., Lyndonville, N. Y. 51 9 16 90

DRUG STORE in live manufacturing city of 10,000 to 12,000; handsome brick corner; sold on account of sickness; will inventory $2,500. Sell for $2,200 cash, or time; very easy terms. For particulars address H. R. Bonnell, 627 Main St., corner Fox St., Phillipsburg, N. J. 50 9 16 90

FOR SALE—A first-class drug stock and business in Grand Rapids worth $2,500 must be sold owing to the absence of proprietor on account of sickness; correspondence solicited. Address L. J. Shafer, 77 Madison Ave., Grand Rapids. Mention this journal. 49 9 16 90

FOR SALE—Drug stock and fixtures. Finest store in a live town in the heart of the orange and raisin belt of Southern California. Write for particulars. Address Lock Box 86, Colton, California. 49 9 16 90

FOR SALE.—In Syracuse, N. Y., a first class drug store having stock of $3,500 to $4,000. Business excellent; location one of the best, and expenses very low. Owner has other and important business that demands his attention out of city. A rare chance. Address: Druggist, P. O. Box 474, Syracuse, N. Y. 40 8 15 90

$850 WILL buy a drug store and dwelling combined worth $550, and $300 worth of drugs, at the termination of the C., M. & St. P. Ry., situate in the center of the Great Rio Valley. No opposition. Thickly settled country. Good pay. Reason for selling: Going south. Address: Geo. J. Vought, Orient, S. D. 42 8 15 90

TO EXCHANGE.—320 acres fine creek-bottom land, near Dighton, Kas. (county seat Lane), 35 acres under cultivation; rich black, and smooth tillable soil; stone residence, shade trees, two wells, and creek forms south boundary line; large cattle corral; stone stable to accommodate about 30 head of cattle, and smaller one for about 10 head; chicken house, etc., etc. Price, $4,000; incumbrance, $1,000 at 8 per cent., due in about four years; will pay off if required,

Also, A1 centrally located residence property in Fort Scott, Kas.; corner lot, 50x150; stone and frame house, rented to good tenant; near postoffice, court house, and centre of business. Price, $3,000; incumbrance, $1,000 at 6 per cent., due in about two years.

Will trade either or both above for drugs, brick or acre property near large city. Address: J. L. K., care 531 Grand ave., Kansas City, Mo. 43 8 15 90

WANTED.—By a young physician, a situation as traveling salesman for a wholesale drug house for 1891. A southern territory, Georgia or South Sarolina, preferred. Best of recommendations. Address. L. M. A., St. Matthews, S. C. 60

FOR SALE.—On account of rheumatism, my practice and drug store. Sales $4,796.00 in 1889; practice $900.00; collections 95 per cent.; Stock $1,750.00. Will sell stock and building, or stock alone. Store building $600.00; residence $600.00. Address, J. H. Hume, Laurel, Iowa. 59

WANTED.—A good and reliable druggist to put in a stock of drugs in a small town. A good opening for such a man. Address, David Stewart, Swanton, Saline Co., Neb.

SITUATION WANTED by a steady, temperate and industrious man of twenty years experience. Licensed in New York State. Have family. Places of less than 2,500 need not reply. Wages nominal for steady employment. Give minute information. All questions cheerfully answered. Address, C. A. Fleming, Mayville, N. Y. 56 11 15 90

DRUG STORES and Medical Practices and Property bought, sold, rented, and exchanged. Partnerships arranged. Assistants and Substitutes provided. Medical, Pharmaceutical, and Scientific books supplied at lowest rates. Send ten cents for NATIONAL MEDICAL EXCHANGE BULLETIN containing locations and terms. Address, The NATIONAL MEDICAL EXCHANGE, 256 Randolph St., Detroit, Mich. 57 11 15 90

DRUG STOCK FOR SALE.—In Lansing, Mich.; established 30 years in same place; one block from Capitol; around corner from new postoffice building; two doors from cor. main avenue of city. Owner has other business that requires all his time. Address B. W. Long, Lansing, Mich. 58

DRUG STOCK AND BUILDING FOR SALE OR TRADE.—In a good Western Iowa town; $2,000 cash, balance on time, or would take part in Iowa land or Chicago property. Would make a good opening for an M. D. Address: E. L. S., 602 E. Fifth St., Des Moines, Iowa. 44 8 15 90

SITUATION WANTED.—To distribute advertising matter, samples, show cards, and to drum up around New York and vicinity, by a responsible and experienced party. Correspondence solicited. Address: Pierre Gibbons, 1705 Bergen St., Brooklyn, N. Y. 45 8 15 90

FOR SALE.—Drug store; first class brick building 80 feet deep; French plate glass front. fine stock in first class condition. Reason for selling, ill health. Address: L., Box 21, Seville, O. 46 6 15 90

FOR SALE.—First class drug store, invoice about $1,600, situated in centre of city of Lexington, on one of the principal streets. Reasons for selling: Have a stiff arm and poor health, and can't attend to business. Address: R. D. Collin, Lexington, Ky. 47 8 15 90

FOR SALE.—One of the finest drug stores in Southern Indiana, invoices $3500, will sell for $3000 if taken now, reason for selling want to go into the manufacturing business exclusively. Address City Drug Store, Vincennes, Ind.

FOR SALE.—The leading drug store, located on the best business corner in a live and growing town. Will sell at invoice. Am engaged in manufacturing. Only two drug stores in town of 3,000. Address, West & Buckingham, Brookville, Ind.

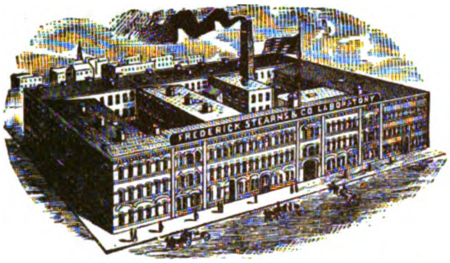
A GOOD opening for a good physician. Inquire of A. Bennett, New Buffalo, Mich. 38 6 16 90

NEW YORK CITY. 211 Pearl Street. **Established 1855.** **WINDSOR, ONT.**

FRED'K. STEARNS & CO.,

Manufacturing Pharmacists,

DETROIT, - MICHIGAN.


FREDERICK STEARNS & CO.

PHARMACEUTICAL PRODUCTS.

We manufacture the most complete lines of any house in America. *Assayed* Fluid Extracts, Sugar and Gelatine Coated Pills and Granules, Elixirs, Tinctures (assayed), Wines, Syrups, Digestive Ferments; Compressed Goods—Lozenges, Tablets, Pills and Triturates; Effervescing Granular Preparations, Powdered Drugs, etc., etc., etc.

Price Lists free on application.

NON-SECRET MEDICINES

Were **originated** and introduced by us in 1876—fourteen years ago. The number of our preparations is the largest, our variety of styles the finest, our formulas unquestionably the best. Our 100 page illustrated Catalogue free on application.

STEARNS' FINE PERFUMES

Are highest grade goods and favorite odors everywhere, especially Amorita, "4" Roses, May Blossom, and Euxenia, which are unequaled. Novel advertising means. Catalogue of Perfumery and Toilet Requisites free on application.

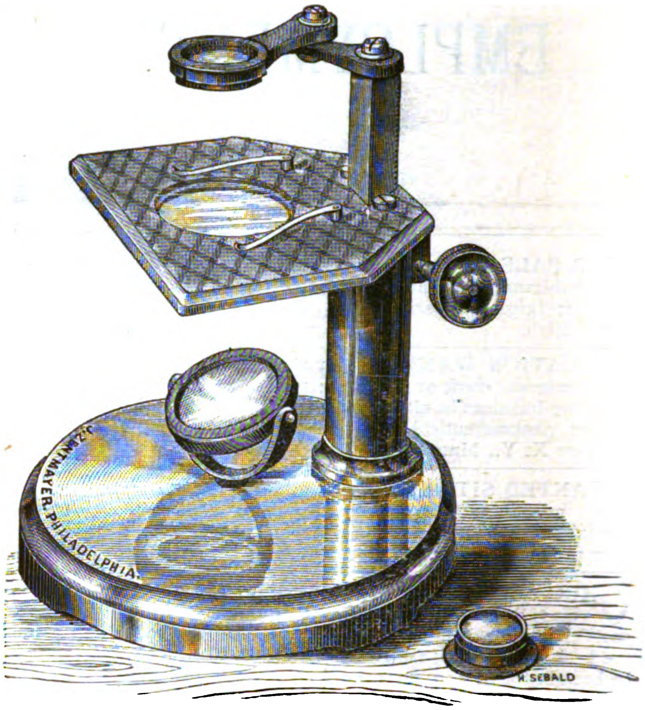
SPECIAL FORMULA DEPARTMENT.

In the preparation and putting up of a private formula in Pilular Powder, Liquid or any other form, we can do it better, cheaper and more elegantly than the retailer can possibly do it himself. Send for quotations.

FRED'K. STEARNS & CO.,

DETROIT, MICHIGAN.

☞ Please mention the Druggists' Bulletin.



DISSECTING MICROSCOPES.

JOSEPH ZENTMAYER,

MANUFACTURER OF MICROSCOPES,
209 S. Eleventh Street, Philadelphia, Pa.
ILLUSTRATED CATALOGUE ON APPLICATION.

☞ Please mention the Druggists' Bulletin.

MAJOR'S CEMENT.

ESTABLISHED 1876.

For repairing China, Glassware, Furniture, Meerschaum, Vases, Books, Tipping Billiard Cues, etc.

MAJOR'S LEATHER CEMENT for repairing all kinds of Leather Goods.

MAJOR'S RUBBER CEMENT for repairing all kinds of Rubber Goods.

MAJOR'S BEST LIQUID GLUE for repairing Wood, etc., always ready for use.

☞ I furnish to the trade with one order of 4 dozen of either kind of Cement, a Thermometer 4½ by 24 inches, first-class in every respect.

Advertising matter sent by mail, on application, to dealers who handle my goods. I also furnish a handsome sign for inside and a stand for outside use. Send for terms.

A. MAJOR,
232 William St., NEW YORK CITY.
KERRY WATSON & CO., Montreal, P. Q.
and
THE LONDON DRUG CO., London, Ont.,
Agent for Canada,

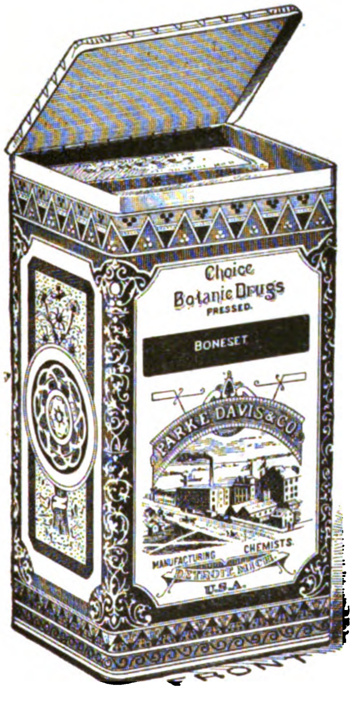
SELECT PRESSED HERBS

WE PAY particular attention to the quality and identity of these goods; our facilities for securing supplies are most superior; we take extra care in garbling the drugs, and our packages are specimens of neatness and security.

We call attention to an important improvement in our packages of pressed herbs, consisting in the use of an impervious paper in the case of all drugs depending for their activity on a volatile constituent. Drugs which otherwise would deteriorate rapidly, retain their strength unimpaired in these packages for a long time.

We are now furnishing for the convenience of druggists a decorated tin can for storing these goods. Each can has a capacity of two pounds and having interchangeable tin labels both on the top and front it can be arranged on shelves in either position to suit accomodations.

The following cuts illustrate this container:



HEIGHT,	9	**INCHES.**
WIDTH,	4 1-2	"
DEPTH,	3 3-4	"

Our pressed herbs can be procured from the jobbing trade supplying our goods and we will gladly furnish special list quoting latest prices upon application.

PARKE, DAVIS & CO.,

Detroit and New York.

PECKHAM'S CROUP REMEDY

THE CHILDREN'S MEDICINE,

For the Many Throat and Lung Troubles so Common to Childhood. $2 per Dozen. Retail, 25 Cents per Bottle. 5 Per Cent. Discount on Half-Gross Lots.

Eastern Depot, McKesson & Robbins, 91 Fulton Street, New York.

Lithographed advertising matter, receipt books, etc., free on application. We give four dozen Court Plaster Tablets and large supply of advertising, your card printed on tablets, etc., with each dealer's first order for one dozen Peckham's Croup Remedy, and guarantee its sale. 150 per cent profit. Dealers recorded as handling our goods will receive two dozen tablets, etc, with orders for one dozen or more. Address, naming wholesale druggists,

THE PECKHAM REMEDY CO., Freeport, Mich.

☞ Please mention the Druggist's Bulletin.

WM. SUCKERT & SONS,

Book Binders, Blank Book Manufacturers, Rulers and Printers,

DETROIT,— Respectfully solicit the orders of pharmacists. Superior work guaranteed. Prompt attention given to all inquiries. —***MICH.***

☞ Please mention the Druggists' Bulletin.

GONE WHERE THE WOODBINE TWINETH.

PAY THE RETAILER 100 PER CENT

There is no good reason why a dealer should waste his time trying to work off imitations or substitutes that are unknown and pay no better profit.

ROUGH ON RATS IS SOLD ALL AROUND THE WORLD.

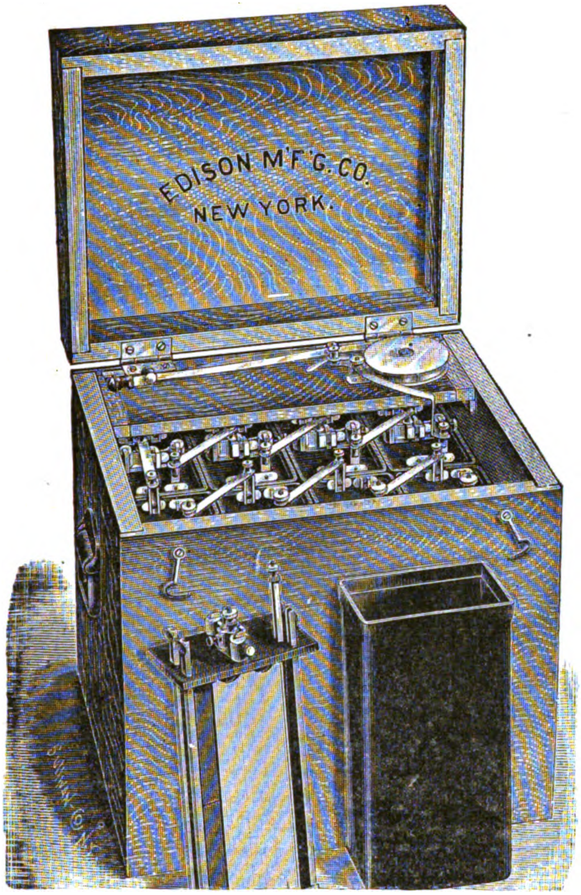
Used by all nations. Is the most extensively advertised, is best known, and has the largest sale of any article of its kind in the world. Is the most convenient, most effective Rat, Mice, Insect and Bug Destroyer on earth. To be had of all retail and wholesale dealers in drugs and medicines. Send for lithographs, chromos, books, etc., etc.

E. S. WELLS,

Manufacturer and Proprietor,

☞ Please mention the Druggists' Bulletin.

JERSEY CITY, N. J., U. S. A.


EDISON M'F'G. CO.
NEW YORK.

THE

Edison Lalande Battery,

FOR

Galvanic and Cautery Work.

Write for Description and Price-List of the

New Edison Cautery Battery

This Battery is well adapted to requirements of either specialists or general practitioners, as it combines simplicity, durability, and economy, and is superior for all demands of Electro-Therapeutics.

All dealers in electrical supplies keep or should keep these cells in stock. If unable to purchase from dealers in your vicinity, communicate with

THE EDISON MFG. CO.,
19 Dey St, New York City.

JAMES F. KELLY,
General Sales Agent.

☞ Please mention the Druggists' Bulletin.

GLYCERIN SUPPOSITORIES.

95 PER CENT. GLYCERIN.

An effectual means of relieving constipation. Put up in glass bottles; will remain permanent in warm weather. Available for children or adults, and all with those wishing to avoid the gastric disturbances of cathartics.

PARKE, DAVIS & CO.,
DETROIT AND NEW YORK.

☞ Please mention the Druggists' Bulletin.

THIOCAMPH.

AN ELIGIBLE DISINFECTANT.

It is well known that sulphurous acid is an efficient disinfectant, but owing to its gaseous condition its employment has been attended with many objectionable features.

The new disinfectant, Thiocamph, is a combination of camphor with sulphurous acid, containing over 60 times its volume of sulphurous-acid gas, which, upon its exposure in a warm room, is gradually evolved

The property of camphor to absorb sulphurous acid with the formation of a new chemical compound was pointed out some time ago by H. M. Schultze in Jour. f. pr Chemie, II., 24, 17.

Thiocamph is a liquid, and may be employed in a pure condition or dissolved in alcohol, in which it is readily soluble.

We are the first to offer Thiocamph to the medical profession and drug trade of America, which insures its being preserved to science unhampered by trade-mark, copyright or other proprietary scheme to secure a monopoly in its production and sale.

☞ Please mention the Druggists' Bulletin.

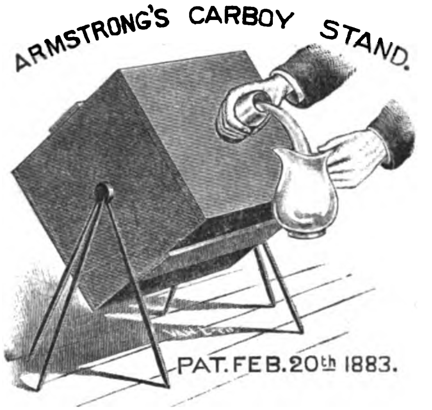
PARKE, DAVIS & CO., Detroit and New York.

ARMSTRONG'S
CARBOY STAND.

This invention has for its object the provision of a **simple, cheap,** and **serviceable** means for **decanting liquids** from large and cumbersome casks, cans, and other vessels, and especially **Acids** and other dangerous fluids from **carboys** of usual construction.

FOR DECANTING

Sulphuric Acid,
Muriatic Acid,
Nitric Acid,
Acetic Acid,
Butter Antimony.


ARMSTRONG'S CARBOY STAND.
PAT. FEB. 20th 1883.

FOR DECANTING

Aqua Ammonia,
Spirits Nitre,
Chloroform,
Sol. Chlor. Iron,
Fowler's Solution.

PRICE $1.50 PER PAIR OR SET.

This invention is so constructed that each trunnion support is independent, that is, separate from or adjustable with reference to its mate, and adapted to maintain an upright position. The trestles are so made as not to require any additional mechanism in the carboy or can. They will support 1,000 pounds.

DRUGGISTS AND MANUFACTURERS

Who handle **Sulphuric Acid** and **other Acids** in **carboys,** will find this to be exactly what we claim for it, and when once in use would not be without them for ten times their cost.

A Discount of 10 Per Cent is made when ordered in lots of 12 Pairs or Sets.

Springfield, Ill., Oct. 29, 1890.

Armstrong Carboy Stand Co., Detroit, Mich.:

Gentlemen:—Please ship us 12 pair Armstrong's Carboy Stands. The sample we bought of you some time ago is perfectly satisfactory. Very truly,

Utley & Schlierbach, Wholesale Druggists.

Above is a fair sample of letters received.

As rapidly as agencies are established in different sections of the country their names will be published, so retailers can secure the Carboy Stands nearer home.

For sale by J. D. TITSWORTH & CO., 23 Cedar St., New York City.

Address for Agencies,

ARMSTRONG CARBOY STAND CO.,
DETROIT, MICH.

Wholesale Agents in Detroit for Michigan,

JAMES E. DAVIS & CO.,
Wholesale Druggists.

☞ Please mention the DRUGGISTS' BULLETIN.

GENERAL LIBRARY
UNIV. OF MICH.
JUL 10 1899

UNIVERSITY OF MICHIGAN
3 9015 06851 2691